CHILD ACCOUNTING

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CHILD ACCOUNTING

A Discussion of The General Principles Underlying
Educational Child Accounting
Together With The
Development of a Uniform Procedure

by

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ACKNOWLEDGMENTS

The inspiration for this work on Child Accounting came from a long study of conditions in Detroit and in Michigan, starting with a complete reorganization of Detroit records in 1919. Careful experimentation with small groups followed by general changes in field procedure have covered a period of four years. As a result practically every form recommended has been given a thorough trial under actual field conditions, its weaknesses eliminated, and its value proved.

To the many people who had the vision to sense the necessity for accurate child accounting grateful acknowledgement is made. Particular credit is due Frank Cody, Superintendent of Schools, in Detroit, for a keen grasp of the situation which led him to sponsor child accounting development. To my friends and colleagues Charles L. Spain, Stuart A. Courtis, Paul C. Packer, Homer W. Anderson, and H. L. Harrington, I am indebted for valuable suggestions, criticisms, and stimulating advice. Principals John A. Redden and George Birkam, of the Detroit Public Schools, have aided greatly by their keen criticism on field conditions and to them belongs the credit for the development of the teacher's class record book.

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A. B. M.

Detroit, April, 1924.

INTRODUCTION

Child accounting grows steadily in effectiveness and importance. If one attempts to compare the practices of the schools of fifty years ago with those of the present day, one is balked at every turn by the meagerness of the records which the schoolmen of that period left behind them. It was enough apparently that school kept. Children came and went. There were always more than enough pupils on hand to keep every teacher busy, so why bother with accounting? General statistics of gross operation were all that the occasion demanded.

As one surveys the schools of the present day from this point of view, one comes to realize that there are still many communities which have never outgrown such primitive conditions. Thanks to the industrial revolution and the spread of the scientific spirit, however, the public in all its affairs is coming to recognize the value of intelligent planning on a fact basis and of adequate accounting for the use made of facilities and funds provided. It is beginning to hold schoolmen to the same strict accountability that it demands of its other agents. Necessity is ever the mother of invention. Accordingly in the larger cities, and in the more progressive of the smaller ones, school administrators are busily gathering the data which show exactly what is happening in their schools; what becomes of the children entrusted to their care.

While the universal motherhood of necessity has long been recognized, no one has had the temerity to hail necessity as a model mother. Pressure makes for hasty action and patchwork evolution. As the need has arisen, one type of record after another has been asked for by the central office of our school systems. There have been duplications, overlappings, and confusions as

well as important omissions, inadequacies, and deficiencies. Further, the average American school superintendent has been so busy making statistics or collecting them that he has had no time to consider the validity of his methods, or the value of the product of his labors.

For all these reasons the present volume seems destined to receive a hearty welcome from school men everywhere. The fact that it is written by a director of a bureau of statistics and reference in a large city system guarantees that it deals with practical problems in a practical way, while the unusual ability and experiences of the author insure soundness of fundamental theory and comprehensiveness of view. The records and forms herein presented, together with the supporting instructions and suggestions, will enable the busiest school worker not only to put an admirable system of carefully integrated records into effect with the minimum expenditure of time and effort, but also to thoroughly comprehend the meaning and worth of such records, and the uses to which they should be put.

This volume is written from an unusual point of view. It boldly recognizes the fact that the basic reason for statistics is the appraisal and the improvement of instruction. Not "statistics for statistics sake" but reliable records adequate for the uses which are to be made of them. The time has come when school workers must realize that in the education of the individuals committed to their care, nothing less than the best and a steadily improving "best," will do. Society will not much longer tolerate carelessness or inefficiency in the handling of human souls. Scientific child accounting is the answer.

Stuart A. Courtis,
Director of Instruction,
Detroit Public Schools.

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PART I. General Principles

CHAPTER I

THE NEED OF SOCIETY FOR RECORDS

MAN is born into a world of records. From birth until death he is the cause of more or less effort spent in the recording of his comings and his goings. The nature of these accounts depends largely upon his life activity, its scope, and its direction. Institutions and agencies developed by man to meet his needs—home, church, and state, together with the complex social and economic agencies—all play their part in the unceasing recording of individual effort and activity.

Upon first consideration the above statement is startling and may appear to have in it some degree of exaggeration. Upon closer inspection its truth becomes quite apparent and may be most easily observed by selecting a few average individuals and following them from the cradle to the tomb.

There are in general five types of institutions and agencies that contribute to the recorded individual existence. These are the home, the church, the state, the social, and economic agencies. The function of each in this intricate and apparently unrelated record making scheme will be discussed briefly.

Home. At birth, the first record keeping agency is the home. The completeness of its records depends upon the number of offspring and the degree of family education. In the average home, it is still safe to assume that the written records of the child

will consist of the traditional entry on the fly leaf of the family bible, giving name and date of birth. From that time on the average home record is verbal, a treasure locked in the maternal mind. In homes where the level of intelligence is low all of the records are verbal, as experienced social workers in their attempts to trace heredity bear witness. In families at the other end of the social scale these records are much more elaborate. The individual child book, made tastefully attractive for sales purposes, has come into quite general use. The records of the first-born are quite complete as to photographical likenesses, physical peculiarities, tastes, relatives, and the entry of red letter events such as the appearance of teeth, the first smile, and the first word. Some of the more scientifically inclined parents even make record of weight and height for a few years. Such diary may be carried on for three or four years. The record of the second child is not so complete for the time element has now become a greater factor in the mother's life. In the case of the third child, he is quite fortunate if the parents remember to buy a record book at all. If they do, the tangible result is usually an entry of birth and then a heterogeneous mass of unmounted snap shots and photographs.

Whatever the social status of the family, these home records are seldom in written form after the fifth year. From then until marriage and finally death they are purely verbal in character. These traditional records that grow up around the hearth are, however, of the greatest social importance in establishing firmly the family background and tradition and have played an enormous part in the development of our present day society.

The Church. The second social institution—the church—in the average case enters early upon its record keeping activity. Shortly after birth the child is entered upon its rolls, the manner depending upon the traditions of the particular denomination or sect. As the child grows older there are the Sunday school records of attendance and performance. Again, during early adolescence there is a second consecration, known generally as confirmation or baptism, and the individual now appears permanently upon the church roll as a full-fledged member. At manhood comes marriage

and the growth of the family still intimately connected to and recorded by the church as well as the state. The church keeps careful note of its members until death, more scientifically and completely since the pressing problem of church finance and the fast disappearing neighborhood church have made necessary the introduction of more business-like methods. Through personal contact, through pledged contributions, and through other subsidiary church social organizations, a fairly good account of the individual is maintained. Individuals moving from one community to another may be transferred from parish to parish in a satisfactory manner.

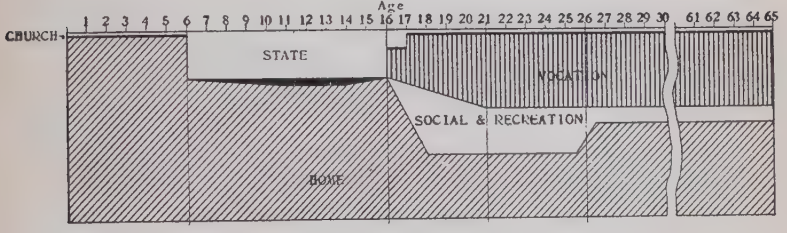

FIGURE 1—RELATIVE TIME TAKEN BY INSTITUTIONS

In this figure an attempt is made to show in a general way the division of the average individual's time among the several institutions. The horizontal line represents age. The institutions and agencies are labelled in each instance. The large proportion devoted to the state includes attendance at school.

The State. The third institution to be examined in our analysis of individual accounting is the state. These record-making activities are not of recent origin but extend from the dawn of civilization. It has been fairly well established that the ancient governments in the cities in the valley of the Tigris and Euphrates took a census and kept community records several thousand years before the Roman Empire was born. The tradition from Roman days was imperfectly carried over to medieval times but revived as the governments of western Europe evolved from feudalism and took upon themselves functions that made taxation and records necessary.

The present day records of the state consist first of the recording of birth and, unless contagious sickness develops, there is practically little else until the child reaches the age of five years. From then until twenty years the state keeps a legal record of him and his movements. From seven until sixteen he is generally in school. If not in school the state assumes that it is aware of the reason and in many cases has the individual under observation in one form or another, through such agencies as the visiting teacher, the attendance officer, the court, or some other state institution. It is during this period of life that the most exact records are kept.

At twenty-one years the individual attains full citizenship and registers for at least one presidential election. Sooner or later the average man marries and this change in legal status must have the sanction of the state. Except in times of a great emergency—the recording and classifying of the nation for the great war—the state now contents itself with making a regular record of the individual every ten years through the medium of the census. Certain license taxes—automobiles are the most prominent example—and other direct levies in the form of income tax, personal, and real property taxes reach great numbers of individuals and furnish the state additional records. Another large class of whom the state makes permanent record is the group running counter to the law. Here the record keeping is exact, continuous, and thorough, and it seldom happens that an individual once listed by the police can be lost. When the individual dies he is so recorded by the state, and until the cause is legally established, it is impossible to secure the permit to inter the body. This is the last check made by the state for the protection of the individual.

General Social Agencies. Under the head of general social agencies that enter into the record keeping activities of the individual may be classified fraternal organizations, clubs, hospitals, doctors, dentists, gazetteers, welfare organizations, organized charity, and the newspapers. The completeness of the records developed by this group of social agencies depends upon the scope of the individual's existence. There are many who "are

born to blush unseen" and whose life activities might be easily covered by brief entries upon the part of the home, state, and church, but the average man in the exercise of his social instincts comes in contact with many, if not all, of the agencies enumerated above and leaves with them a written record. What a wealth of material the newspaper and gazetteer furnishes of the man who feels the call of public service! To friends, supporters, and party, he is a superman; to the opposition, the embodiment of all that is undesirable, with all shades of opinion between these extremes.

Economic Agencies. The data of a series of economic agencies must be considered in the mass of records to which every individual is heir. These include private credit agencies, insurance companies, banks, unions, industrial establishments of all descriptions, and public agencies like land offices and post office savings banks. In this group are probably found some of the best examples of individual record keeping. Let us consider first the credit agencies.

Since the greater portion of business is done on a credit basis, the chief asset must be confidence. In the small community confidence is the outgrowth of personal contact and observation, but in the kaleidoscopic and intricate industrial and social society of the present day where the entire country and world is a market, such methods of acquiring confidence are impossible, owing to size and constant change. The world of commerce therefore had to evolve some agency through which the required results could be secured, and the outcome was the credit or rating bureau. These agencies, upon whose reports and ratings are based the risk of enormous as well as small transactions, are dotted all over the country and are developing the most exact and detailed records of individual activity, and upon the story of these records depends the confidence of the people with whom he does business. How important a part this agency plays in our everyday lives is yet little known to the average individual. It has as an institution taken the place of the neighborhood feeling, sentiment, and personal contact of the small community. It definitely places an individual in his economic niche whether he is buying a suit of clothes on the installment plan or purchasing an insurance policy.

Insurance is another economic activity that is gradually becoming a fairly exact science through the analysis and use of carefully compiled records and the resulting statistics. With these two agencies the records are very complete, and of some years in duration.

The individual records kept by banks and the savings departments of the post office are probably of much shorter duration, coincident with the period of savings. General records kept by industrial establishments, on the one hand, or labor organizations, on the other, are quite complete along industrial lines during the period of employment, or during association with labor organizations.

These institutions, the home, the church, the state, and social and economic agencies, spend no inconsiderable portion of their time in recording, in accordance with their needs, the activities of individuals. What a multiplicity of records and what a variety! Who among us would recognize our close friends and business associates, of whom we feel intimate knowledge, if the diverse records kept by these agencies could be gathered together in one

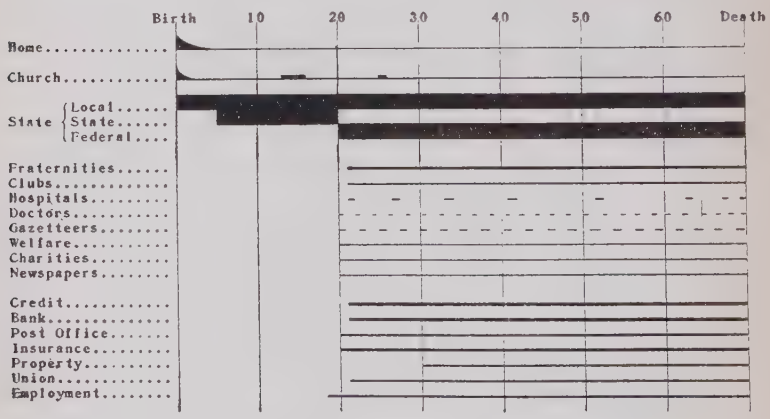

FIGURE 2—RECORD KEEPING AGENCIES

The figure above attempts to show the more important record keeping agencies and the period of life in which they appear. Thickness of line indicates approximately the completeness and importance of the records.

place and studied by a stranger in an effort to reproduce the individual portrayed? Romance would be out-shadowed by reality. Such would be a task for a master pen—a Balzac.

Summary. Man is born into a world of records because society has need for them to carry on the complicated activities of modern life. The verbal type has passed into the background with the development of man, and the need for accurate, written records is daily of greater importance. This is not a statistical dream, for society would certainly not devote energy and money to the collection of specific data that were of no value after collection. If we except the period of school life, most of these records are collected not by the state but through non-public agencies for individual profit, gain, or security. In spite of the great activity briefly described, society finds itself still without the adequate and reliable records necessary to effect the proper relationship between the individual and the group. Since individual record keeping is vital to the existence of our social order, to say nothing of its progress, it is highly desirable that definite and reliable technique be provided whereby such records become accurate, simple, accessible, uniform, truthful, and complete. In due time such an organization will be properly effected. The purpose of this volume is to treat, from the standpoint of the needs of both the individual and the state, only that cross section of the individual existence from five to twenty years, known as the school age.

CHAPTER II

HISTORICAL ASPECTS OF CHILD ACCOUNTING

FROM the time that free public schools were organized in the several states and aid rendered to them by state and local governments in one form or another, there have been required by law certain school records from which reports might be made to satisfy such laws. Prior to the civil war, educational organizations were quite simple in character and the available records are in the form of reports[1] by boards of education which tell, with rhetorical flourish, of the work of the administrative committees of such boards, and contain certain general data regarding attendance and tardiness among the pupils, for the per cent of attendance was regarded at that time by boards of education, superintendents, and principals, as the real index of school efficiency. Records were compiled to secure a good per cent of attendance. Standards seem to have been determined upon and statistics then set up to attain them.

The Chicago Report. In 1862 Mr. Wells, superintendent of Chicago schools, round-robined a score of superintendents in an attempt to secure some uniformity in the attendance statistics of child accounting. Costs in education were mounting in the sixties even as they are today and harassed school boards, and superintendents sought solace in cost comparisons with other cities, hoping for and securing confirmation of cost advances there as well as in the home town.

[1]Reports were issued by city school systems as early as 1818 in Philadelphia; 1834 in Cleveland; 1843 in New York and Detroit, and 1853 in Chicago.

A certain amount of uniformity was necessary to compare cities even in the sixties. Traveling was too expensive for school boards and superintendents, so Mr. Wells, through correspondence, worked out the first known set of child accounting rules, and by 1864 they were in use in almost 100 cities. Even now they are in fairly general operation with only slight modifications. Many cities have since reduced the number of days required for "temporary leaving" from five days to three days to secure "better attendance."

The "Chicago Rules," as they came to be called, included the following:

1. "Whenever a teacher has satisfactory evidence that a pupil has left school without the intention of returning, such pupil's name shall forthwith be stricken from the roll: but any absences recorded against the name of the pupil before the teacher received this notice, shall be allowed to remain, and in making up the attendance averages such absences shall be regarded the same as any other absence.

2. "When a pupil is suspended from school by any of the rules of the school board, whether for absence or for any other cause, his name shall be stricken from the roll.

3. "When a pupil is absent from school more than five consecutive school days, for sickness or for any other cause, his name shall be stricken from the roll at the end of the five days, and the absences shall in all cases be recorded while the name remains on the roll; but this rule shall not operate to prevent the suspension of a pupil, under Rule 2d, for a less number of absences in which case his name will, of course, be dropped from the roll.

4. "For the purposes contemplated in the foregoing rules, any pupil shall be considered as absent whose attendance at school shall not continue for at least one-half of the regular school session of the half day."

Child Accounting in 1864. Superintendent Duane Doty, of Detroit, reporting to the board of education for the 1864 school year, said of statistics generally and the Wells' report that.

"During the past year much labor has been given to making the school statistics full and accurate. In attendance statistics, three things are especially important and necessary, viz.: The whole number enrolled, average number belonging, and the average daily attendance. * * *

"The Wells' report settles the vexed question of membership happily and justly, and its general adoption will very largely increase the value of school statistics. Of course, it will be understood that striking the name of a pupil from the roll after five days' absence, for any cause, is neither suspension nor expulsion. It simply subtracts one from the number belonging, until his return, and in no respect interferes with his right to return.

"It is easy to see that leaving the name of an absent pupil upon the roll for an indefinite time, makes the number belonging too large, and increases the per cent of absence unfairly and improperly."

Temporary Lefts. The reason for the adoption of the much abused and criticized "temporary left" rule is easy to see. The standard of judgment was the per cent of attendance and the amount of tardiness. Promotion and non-promotion, age-grade-progress, retardation and elimination, and standard tests were unknown media as educational measuring rods in the sixties. It is quite obvious that if one factor is stressed insistently enough, the group will soon secure, by some means or other, an approximation of this standard. Under these rules, 93 or 94 per cent average attendance for all schools was considered good. Since such a standard was impossible without the "temporary left" factor, that practice became general. In their eagerness to be efficient some school systems went even further. In 1865 a comparison in attendance was made between a dozen cities.[2] Toledo was first with a percentage of 96.9. An investigation showed that in Toledo the attendance was not kept on the Chicago basis. Names were dropped from the rolls when the pupils had been absent five days, but those whose names were dropped were considered to have left on the day they actually did leave, that is at the beginning of the five days, and not, as the Chicago rule required, after they had been absent five days. Judging from the remarkable per cent of attendance shown, some of the other cities probably followed Toledo's example.

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[2]Percentage of attendance in twelve cities in 1865:

City	Average % of Attendance	Probable Actual Attendance*
Toledo	96.9	85.9
Providence, R. I.	95.7	85.7
Cincinnati	93.9	83.9
Cleveland	93.5	83.5
Boston	93.0	83.0
Detroit	91.6	81.6
Indianapolis	91.2	81.2
Chicago	90.8	80.8
St. Paul	87.5	77.5
Louisville	87.0	77.0
Milwaukee	86.5	75.5
Harrisburg, Pa.	75.0	65.0

Average attendance in Detroit after "temporary lefts" were eliminated was: 1919-20, 87.9%; 1920-21, 90.1%; 1921-22, 89.7%; 1922-23, 88.4%.

*The difference between the use of the "temporary left" rule and accurate accounting is approximately 10 per cent.

Census of 1870. In 1870 the United States government made the first general accounting of school children and thereafter general statistics of public and non-public schools appeared in the reports of the Bureau of Education and in the United States Census.

From 1870 until 1912 the question of educational statistics and records was a moot question at meetings of the Department of Superintendence.[3]

N. E. A. Committees. Committees[4] were appointed in 1863, 1874, 1881, and in 1891 for the purpose of developing a uniform terminology and procedure in the preparation and collection of school statistics. The work of these committees was not of a satisfactory character and dealt almost entirely with statistics in the mass rather than with individual child accounting.

Dr. William H. Maxwell, superintendent of schools in New York City, published in his 1904 report age-grade statistics that showed 39 per cent of the elementary pupils to be retarded. The publication of this report caused considerable discussion in educational circles. In 1909 Dr. Maxwell appointed several committees to ascertain the causes of over-age conditions. The published report of this investigation was issued as part of the *Twelfth Annual Report of the Superintendent of Schools.*

In 1908 David Snedden and William H. Allen published a volume on *School Reports and School Efficiency* which brought together the best in reports up to that time and illustrated the possibilities of their use. This book was widely read and reprinted in 1911 to meet the demand of superintendents.

Thorndike and Ayres. There appeared early in 1908 a study of *Elimination of Pupils from School*[5] by Edward L. Thorn-

[3]According to Miss Halle D. Woods, of New York, in 1905, school statistics had been discussed at the meetings held in 1859, 1863, 1872, 1874, 1877, 1881, 1885, 1886, 1887, 1889, 1891, 1892, 1895, 1897, 1899, 1900, 1903, 1904. Further discussions occurred at the 1907, 1909, 1910, 1911, and 1912 meetings.

[4]A brief account of these committees and their work may be found in *School Reports and School Efficiency* by Snedden and Allen, MacMillan Company, 1911, Chapter III.

[5]Published as United States Bureau of Education Bulletin No. 4 of 1907.

dike that caused much comment in educational circles. It was followed in 1909 by *Laggards in Our Schools*, written by Leonard P. Ayres. Dr. Frank P. Bachman's work in the New York survey (1912) brought great attention to the question of over-age conditions and pupil elimination. The productions of Thorndike and Ayres were read throughout the country and started a series of educational discussions that played a big part in the crystallization of sentiment on the part of superintendents for greater uniformity and continuity of school records to secure accurate data for the scientific study of school conditions.

Although age-grade surveys had been made prior to this time by individual cities, these publications brought the general problem, scientifically developed, before the educational world for the first time. The books were epoch making and modern child accounting activity dates from their publication.

N. E. A. 1911-12 Reports. The Committee of the National Education Association on Uniform Records and Reports made a preliminary report[6] in 1911 in which a definite system of cumulative individual school records was recommended. In the following year the committee made its final report which was published as a separate bulletin by the National Education Association.[7] This excellent work was generally well received and many of its recommendations were made effective. The individual record cards and the standardizing of financial statistics were its big contributions.

Survey Literature. Survey literature has in several instances described child accounting conditions as they existed in the various centers considered. A complete study of Cleveland was made by Leonard P. Ayres[8], in 1915, and of St. Louis by H. C. Morrison[9], in 1918, under the direction of Dr. Charles H.

[6]Payson Smith, chairman; George D. Strayer, secretary, William H. Elson, E. C. Warriner, and Charles M. Lamprey comprised this committee. The preliminary report appeared in the Proceedings of the N. E. A. (1911) pp. 271-302.

[7]Report of the Committee on Uniform Records and Reports, Bureau of Education Bulletin, 1912 No. 3, whole number 471.

[8]Child Accounting in the Public Schools, by Leonard P. Ayres, 1915, Cleveland Survey.

[9]St. Louis Survey, 1918, by H. C. Morrison, pp. 203-238.

Judd. The St. Paul Survey[10], in 1917, touched upon the subject, emphasizing certain attendance aspects. While most of the surveys recognize the importance of child accounting and comment freely upon apparent weaknesses, in none of them was there developed a standard uniform procedure for securing more desirable results.

Report Forms. In 1918 George D. Strayer and N. L. Engelhardt developed their series of school records through which they sought to remedy some of the defects in existing methods. These forms received wide recognition from schoolmen and are still in use in many parts of the country.

Dr. E. J. Ashbaugh, while at the College of Education, University of Iowa, worked on standard definitions of child accounting terms during 1916-17 and developed an excellent basis for a state procedure, recognizing the factors of census, attendance, and child progress. His efforts were a valuable contribution to child accounting literature.

Detroit Study. Detroit was among the first of the large cities to feel the inadequacy of child accounting and financial records. In the fall of 1918, Superintendent C. E. Chadsey established a department of administrative research and authorized a study of current conditions. The appointment of Frank Cody to the superintendency in 1919 was followed by the adoption of a child accounting system, based upon fact, and containing the elements necessary for intelligent and successful modern administration.

Inter-City Conference. In the following year a number of the larger cities whose superintendents had begun to feel the inadequacy of child accounting and financial records in light of recent needs organized the Inter-City Conference[11] and in 1921 appointed a research committee[12] to develop a uniform child accounting terminology and a standard terminology for classifica-

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[10]St. Paul Survey, 1917, pp. 32-38.

[11]Composed then of Superintendents of New York, Chicago, Detroit, Cleveland, Buffalo, Cincinnati Milwaukee, Indianapolis, and St. Louis.

[12]Committee consisted of Eugene Nifenecker, New York; W. W. Theisen, Cleveland; Murray Dalman, Indianapolis, and Arthur B. Moehlman, Detroit.

tion of costs and accounts that would permit of reasonable comparisons between cities. The first report of the committee was on a uniform child accounting terminology[13] and was adopted by the Conference at the Cleveland meeting in April, 1921.

The report made two definite contributions. In the first place the "temporary left" clause was dropped, accounting procedure made more definite and placed upon a fact basis. The second change was the recommendation that costs be determined upon the basis of actual service rendered, attendance of children, or, still more exactly, upon instruction hours.

Finance Report. The second study made by this committee, co-operating with a committee from the National Association of School Business Officials and the Bureau of Education, was the reorganization of the standard financial report for cities over 100,000 population.[14] This report was approved by the Department of Superintendence in February, 1922, and by the National Association of School Business Officials in May, 1922, and was used by the Bureau of Education for the collection of fiscal statistics for the year ending June, 1922. The principal features of the new form were the definitions of function and the classification of accounts upon the basis of new organizations.

Michigan Committee. In 1922, Dr. Allan S. Whitney, President of the Michigan State Teachers' Association, appointed a state committee of three[15] on Uniform Child Accounting and Unit Costs. The first task of the committee, in coöperation with State Superintendent of Public Instruction Thomas E. Johnson, was to develop a comprehensive system of Child Accounting, state wide in its application and uniform in respect to procedure. The Preliminary Report[16] was made to the superintendents, commissioners, and principals of Michigan in May, 1923, and will be published as a final report during 1924. The tentative pro-

[13]This report defined the following: registration, transfer, losses, membership, attendance, student hours, and per pupil costs. A copy of these rules may be found in the appendix.

[14]Substituted in cities of 100,000 or greater population for the 1912 form.

[15]The committee consists of: Arthur B. Moehlman, Detroit, Chairman; Wilford L. Coffey, Lansing and Charles Dawson, Grand Rapids. Reappointed for 1923 by President Edwin L. Miller.

[16]Published by the M. S. T. A. (Lansing), May, 1923.

cedure follows generally the accounting rules developed by the Inter-City Conference. The contributions of the Michigan report are: (1) the development of a continuing school census for the entire state; (2) a uniform marking system from the kindergarten through the university; (3) a cumulative individual record card combining at once the scholastic, psychological, and health records of a child from kindergarten through the high school, and (4) a uniform transfer record for the entire state.

Summary. An attempt has been made in the preceding pages to summarize briefly the major efforts in the development of child accounting. Emphasis has been given to those contributions that attempted to provide uniform terminology and better individual and appraisal records. In spite of the large amount of work by associations, committees, and individuals, educational records are still so poorly kept, and the accounting for the individual child is so vague that even in progressive states it is hardly possible to transfer a child from county to city, from north to south, without having the individual transferred lose through the transaction. State and city superintendents are awake to this condition today as never before and are interested in its elimination. The immediate need is for the development of a simple technique in child accounting, theoretically sound, and simple to administer.

CHAPTER III

PRESENT CONDITIONS

IN recent years the attention of teachers and administrators has been brought to bear increasingly upon the need for adequate educational records. The development of the scientific movement, the results of the surveys, and continuous individual investigations have shown the weaknesses and inadequacies of present local and state systems of records. The measurement movement has made great progress in the development of a scientific technique for consideration of instructional data but very little general advance has taken place in the field of child accounting. Investigators have from time to time pointed the need for uniformity and reliability but the importance of the entire problem has received little recognition.

Problem Defined. The problem of child accounting will be defined as *the recording of all activities, instructional and executive, that are necessary in the keeping of the essential records of the individual child during his school life.*

The need for child records falls into three divisions: (1) records of pre-school children; (2) records of children during their school life, and (3) records of children after they have left school. At the present time the immediate necessity is to develop thoroughly and satisfactorily the second group—school records. Until this technique has been satisfactorily and completely worked out, it will be difficult to organize pre-school records. The recognition of the need for vocational guidance, direction, and placement will ultimately demand the organization of post-school records. For the next few years, however, it is likely that the development of child accounting procedure will confine itself

rather closely to the second phase. The general problem must be recognized, however, in order that research may be organized in the other two complementary fields.

National Conditions. What are some of the present conditions that make better child accounting necessary?

Let us start with the children themselves. It may be assumed for purposes of discussion that the school age is 7 to 16 years. There are many variations in the state compulsory education

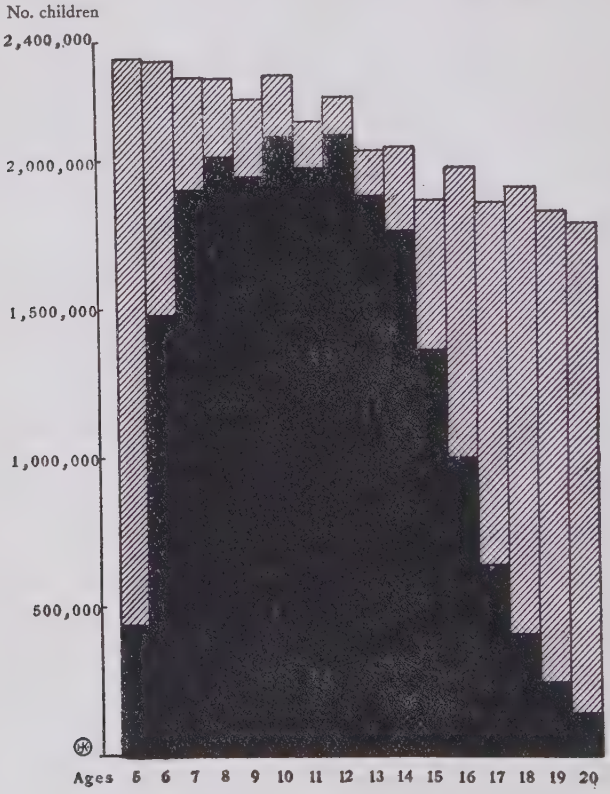

FIGURE 3—CHILDREN NOT IN SCHOOL, (U. S. 1920)

The vertical sections represent the total number of children in an age group. The black area indicates the number attending school. The shaded area shows the number not in school.

laws but generally the 7 to 16 year age limits may be said to cover the compulsory school problem. If there were the proper accounting for these children, and consequently rigid enforcement of the compulsory education laws, all[1] such children would be in some type of school.

What are the actual conditions?

Fifteen Per Cent Not in School. According to the 1920 federal census there were 21,187,461 children between the ages of 7 and 16 years. Of this number 3,192,621 were not in school. In other words 15 per cent of the children of compulsory school age were not recorded as receiving any educational service from the community. This does not mean that these children are not in school at any time during their childhood. The accompanying table[2] and figure 3 show that the number not in school at age seven is 16.7 per cent; at age eight, 11.5 per cent, and at age nine, 9.6 per cent. At ages ten, eleven, and twelve, the number not served drops to slightly less than 7 per cent, increasing from age thirteen on until at age sixteen 49.2 per cent are not in school.

[1]Excepting those physically and mentally incapable of profiting by attendance; and children who are forced on account of economic conditions to enter either industry or to help at home.

[2]Children by age groups, according to the 1920 U. S. Census.

Age	Total No.	Total No. in School	Total No. Not in School	Per Cent Not in School
7	2,287,609	1,905,404	382,205	16.7
8	2,273,280	2,010,894	262,386	11.5
9	2,151,032	1,944,314	206,718	9.6
10	2,233,704	2,077,965	155,739	6.9
11	2,097,782	1,970,255	127,527	6.1
12	2,234,759	2,082,749	152,010	6.8
13	2,028,627	1,877,429	151,198	7.5
14	2,046,265	1,766,784	279,481	13.7
15	1,861,445	1,357,345	504,100	27.1
16	1,972,958	1,001,701	971,257	49.2
Totals	21,187,461	17,994,840	3,192,621	15.1

These are mass statistics and only subject to a rough analysis. Apparently, however, the enforcement of compulsory attendance laws is most effective during ages nine to fourteen when the size of the child out of school and not working, makes him more conspicuous and easier to trace. From ages seven to ten, and fourteen to sixteen, inclusive, the inadequacy of reliable accounting makes it difficult to secure attendance.

The significant fact that stands out boldly against the educational horizon is that 3,192,621 children in the United States in 1920 were receiving little if any service from the public or non-public schools. No attempt is made to consider the adequacy of the service that is rendered through poorly trained teachers and poorly managed schools.

Possibly there may be some doubt in respect to the attendance statistics for the nation as a whole. In this general mass are included good, bad, and indifferent types of child accounting and law enforcement. It is probable that in the sections where there is practically no enforcement of compulsory attendance conditions are so bad that they outweigh conditions in the more progressive communities, particularly the large cities.

Conditions in a Large City. What are the actual conditions in a large progressive community?

For a more detailed comparison the city of Detroit may be taken as an example. Child accounting has received considerable attention there, and serious attempts have been made during the last five years to solve the problem.[3]

In figure 4 and table 4 on the next page the total number of Detroit children is shown by age groups according to the 1922 school census. The black portion gives the number of each group in the public schools; the shaded area represents children in non-public schools, and the unshaded portion those not in school.

[3]The problem is analyzed very carefully for Detroit in the Eightieth Annual Report of the Detroit Public Schools (1922-23) pp. 5-7.

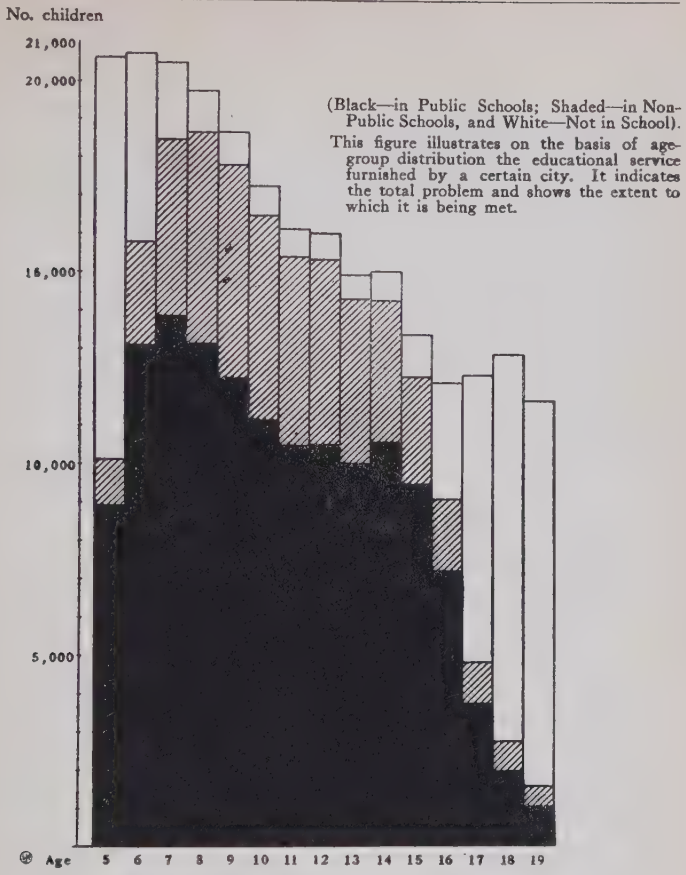
No. children
21,000
20,000
15,000
10,000
5,000
Age 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
(Black—in Public Schools; Shaded—in Non-Public Schools, and White—Not in School).
This figure illustrates on the basis of age-group distribution the educational service furnished by a certain city. It indicates the total problem and shows the extent to which it is being met.

FIGURE 4—CHILDREN IN SCHOOL (DETROIT 1922)

TABLE 4

Age Group	Census* 1922	Public Schools	%	Non-Public Schools	%	Total Served	%	T't'l No. Not in School	%
5	20,613	8,920	43.3	1,194	5.8	10,114	49.1	10,449	50.9
6	20,712	13,100	63.2	2,666	12.9	15,766	76.1	4,946	23.9
7	20,485	13,855	67.6	4,596	22.5	18,451	90.1	2,034	9.9
8	19,727	13,128	66.6	5,525	28.0	18,653	94.6	1,074	5.4
9	18,629	12,218	65.6	5,555	29.8	17,773	95.4	856	4.6
10	17,224	11,137	64.7	5,323	30.9	16,460	95.6	764	4.4
11	16,095	10,449	64.9	4,917	30.6	15,366	95.5	729	4.5
12	16,007	10,490	65.5	4,825	30.2	15,315	95.7	692	4.3
13	14,916	10,009	67.1	4,258	28.5	14,267	95.6	649	4.4
14	15,004	10,537	70.2	3,703	24.7	14,240	94.9	764	5.1
15	13,341	9,458	70.9	2,768	20.7	12,226	91.5	1,115	8.3
16	12,096	7,191	59.4	1,852	15.4	9,043	74.8	3,053	25.2
17	12,287	3,719	30.3	1,068	8.7	4,787	39.0	7,500	61.0
18	12,839	1,959	15.3	757	5.9	2,716	21.2	10,123	78.8
19	11,624	1,031	8.9	518	4.4	1,549	13.3	10,075	86.7
Total	241,599*	137,201	56.8	49,525	20.5	186,726	77.3	54,873	22.7

*Includes proportional distribution of 6,573 children not tabulated in original age-group calculations.

The total number of children served by community and private effort in June, 1922, was 186,726, or 77.3 per cent of the total. Public schools had 137,201, or 56.8 per cent of those in membership. According to the census report, there were 11,730 children, 7.1 per cent, of compulsory school age not in attendance. A certain number of these can be accounted for by employment (1532) and non-attendance (81) permits.

In comparison with the country as a whole, this is a good showing. The 1920 federal census reports a total of 13 per cent of children of school age who are not in attendance. Detroit, as might be expected of a large city, has a larger proportion of children in school than the country as a whole.

Actually, however, there were 7.1 per cent (11,730) of children of compulsory school age who were not in school. In terms of per cents, this is a relatively good condition, but, when considered from the standpoint of the number of individual children, a different side of the problem is presented.

After comparing Detroit with national conditions, Superintendent Frank Cody comments upon the situation as follows:

> "The apparent conclusion is that conditions in Detroit are extremely good as compared with the past and with the country as a whole, but a distinct and important problem is indicated that calls for a more scientific child accounting practice and a serious study of non-attendance in terms of social outcomes."

Attendance Records. The second question to be considered is how are child records kept for those who are actually in school? With the exception of a few cities, attendance records are kept on the basis of the Chicago rules[4] or modifications thereof. The result is a high figure or record for per cent of attendance but one that is misleading. Under such a system of accounting, it is possible to show attendance as high as 97 per cent. How is it done? After three days of absence, a child is marked "left." The membership is automatically reduced, and the per cent of attendance (ratio of attendance to membership) is automatically

[4]Superintendent Wells, 1862, provided that, in order to secure a good per cent of attendance, a child should be "temporarily dropped" after five days of absence. Some cities have modified this to three days of absence. In addition some cities count all holidays as perfect attendance.

increased. Careful investigation has shown that where emphasis is placed upon attendance, the careful teacher will frequently ascertain whether an absent child is to be out more than three days and mark him left at once. Study of certain centers operating under such rules showed that during the terrible influenza epidemic of 1918 the actual per cent of attendance was higher than during normal times. Further study of these reports over a number of years, compared with accounts kept without the "temporary left" expedient, indicate that attendance per cents vary from actual conditions by approximately 10 per cent. In other words, a 96 per cent of average attendance is in reality about only 86 per cent.

If all reports were kept upon the same basis, some one may inquire, what would be the danger?

Methods Hide Problem. The grave danger in such procedure is that the inaccurate statement of facts leads to a misconception of conditions. It is fairly well established that in the northern section of the country it is hardly possible to secure an average attendance, even under excellent conditions, of much better than 90 per cent. The average over a period of years will probably be closer to 88 per cent. Data secured on any other base than strict accuracy merely serves to hide a condition. When we acknowledge conditions as they actually exist, a problem is immediately presented. In one city[5] the study of daily absence led to the discovery that, contrary to the prevailing opinion, truancy and incorrigibility play little part in school absence. The discovery of this fact resulted in a complete reorganization of the course of study in health education.[6] It also caused a new attitude towards attendance. Teachers were instructed that the health of the child was paramount to classroom presence. Since the per cent of attendance was no longer considered the index of school efficiency, teachers sent children, who were about to be

[5]Study by N. H. Pearl (Detroit) in 1921 showed 73% of absence due to personal illness and 27% to other causes, including absence, sickness in the home, etc., Truancy was an almost negligible factor.

[6]Health Instruction for Detroit Elementary Schools, by N. H. Pearl and Ralf McLean, 1922. Published by the Board of Education.

sick, home instead of keeping them in surroundings where their infection might affect the entire group. Isolation of incipient infection will tend to maintain better health conditions, and consequently, better attendance for the majority of the group.

Variations in Attendance. The purpose of keeping attendance per cents in the past has been apparently for record purposes only. It is difficult to find[7] many cities where anything but *average* attendance is kept. Average attendance is interesting from a statistical standpoint, but of little practical value to the administrator or research man. The average figure for a semester or yearly period brings the high and low points in attendance into a meaningless whole. Even a study of average attendance by grades by months shows that the variation by months is great, and indicates a distinct administrative and health problem. A number of average attendance per cents by months for a single year have been drawn in figure 5 on the following page. The significant fact is that the attendance starts to drop in October and continues until June. The use of the average apparently affects the warmer months of spring, when attendance is known to be better than during the inclement winter time. The second noticeable fact is that, as the children increase in age, attendance is uniformly better. Kindergarten attendance is poorest, and that in the higher grades is best. If such data were kept upon a monthly instead of a cumulative basis, other problems would be discovered that might lead to distinct changes in instructional policy and result finally in better school conditions. The importance of the attendance problem at present is familiar to anyone who has tried to develop the results of individual achievement through a periodic testing program.

Individual Records. The third factor is the apparent lack of cumulative individual records. Conditions in this respect have been improved somewhat in larger centers, since the introduction of the child accounting forms that grew out of the N. E. A. 1911-12 report.[8] These records, however, carry only the academic records of the child. The problem is now recognized as much broader

[7]Over 100 cities canvassed had no record of anything but *average* attendance.
[8]Strayer-Engelhardt series.

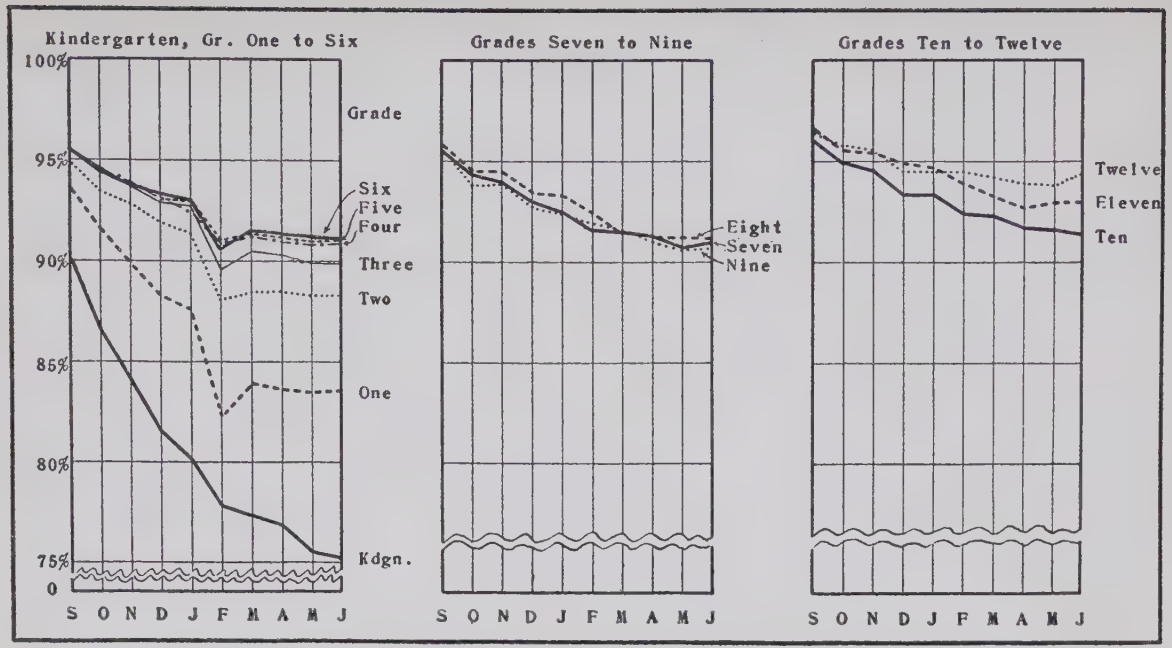

FIGURE 5—AVERAGE ATTENDANCE BY GRADES (DETROIT 1922-23)

than this phase, and demands child records that include health, social, emotional, vocational, achievement, and mental test records as well as academic.

When the larger cities are excepted, study shows convincingly that there are few places where even a meager cumulative record of academic achievement is carried from kindergarten through high school. Lack of uniformity in marks and credits, and absence of complete records, makes the transferring of children from one city to another, from city to rural district, and from rural district to city, difficult. The lack of cumulative records is probably partly responsible also for some of the retardation that stands out so vividly in age-grade studies.

Appraisal Studies. The fourth factor to be considered is the grave need for constant appraisal studies of the child's progress through the school, and the adjustment of the curriculum to the individual. Those may be classified as the promotion and non-promotion, elimination, the age-grade, and age-grade-progress studies.

Promotion and failure studies may be made now from current records in many centers. The question arises as to how much of this work is done and what the results are. Important information in respect to the general adjustment of the curriculum to the children may be derived from such material. Again, the average per cent of promotions is a meaningless figure. Variations within the different schools, and even by subject within the same school, are so great that careful surveys of this nature are essential in the administration of any instruction department. In figures 6 and 7 and in the accompanying tables are shown the variations in intermediate and high school failures for four semesters in one city. The wide variation by subjects by semesters and the greater variation between subjects is startling. These data are indicative of problems that must be carefully considered.

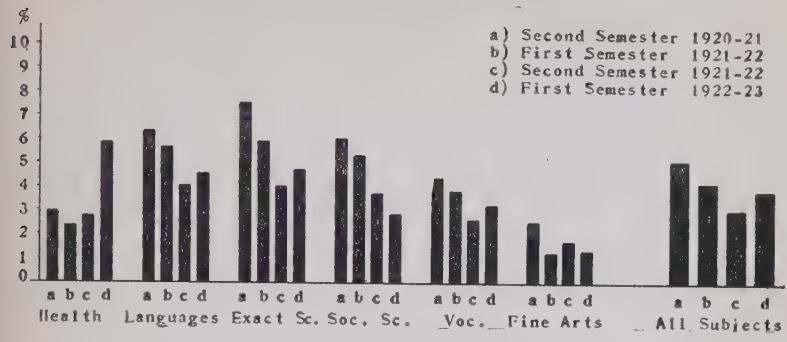

FIGURE 6—FAILURES IN INTERMEDIATE SCHOOLS

Semester School Year	Health No.	Health %	Languages No.	Languages %	Ex. Sci. No.	Ex. Sci. %	Soc. Sci. No.	Soc. Sci. %	Vocational No.	Vocational %	Fine Arts No.	Fine Arts %	Total No.	Total %
2nd....1920-21	91	3.0	274	6.4	358	7.6	238	6.1	329	4.5	92	2.6	1,382	5.18
1st.....1921-22	88	2.4	277	5.7	328	6.0	283	5.4	302	3.9	66	1.3	1,344	4.24
2nd....1921-22	130	2.8	266	4.1	389	4.1	365	3.8	318	2.7	184	1.8	1,652	3.13
1st.....1922-23	502	5.9	318	4.6	503	4.8	327	2.9	396	3.3	118	1.4	2,164	3.95

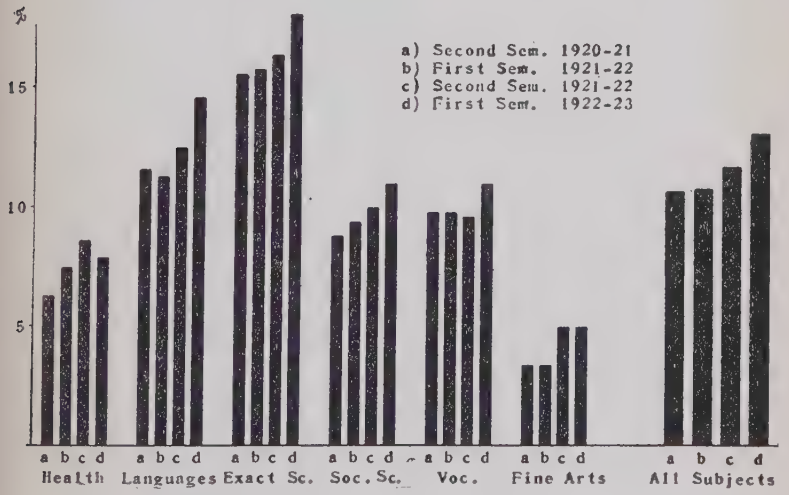

FIGURE 7—FAILURES IN HIGH SCHOOL

Semester School Year	Health No.	Health %	Languages No.	Languages %	Ex. Sci. No.	Ex. Sci. %	Soc. Sci. No.	Soc. Sci. %	Vocational No.	Vocational %	Fine Arts No.	Fine Arts %	Total No.	Total %
2nd....1920-21	567	6.3	2,602	11.6	2,686	15.6	800	8.8	1,799	9.8	158	3.4	8,612	10.7
1st.....1921-22	740	7.5	3,229	11.3	3,176	15.8	962	9.4	2,078	9.8	203	3.4	10,388	10.8
2nd....1921-22	884	8.6	3,484	12.5	3,482	16.4	920	10.0	1,895	9.6	283	5.0	10,948	11.7
1st.....1922-23	842	7.9	3,947	14.6	3,856	18.1	989	11.0	2,097	11.0	267	5.0	11,998	13.1

Age-Grade Studies. Thorndike and Ayres showed the possibilities and value of the age-grade study, and for a time this device was widely used. Outside of the more progressive centers, the writer has been unable to discover that much is being done in a practical way with the age-grade survey. The age-grade study is a mass report, and, as such, is limited in its possibilities, but it shows the problem of individual adjustment.

The age-grade tables for one city, Detroit, are available since 1907, when the first survey was made. These condensed data[9] show the 1907 retardations to be 7.4 per cent and the acceleration, .03 of one per cent. In 1921 the retardation, as a result of better classification, was only 3.6 per cent, and the acceleration .3 of one per cent, although the membership had increased 240 per cent.

Certainly the labor and expense of making the age-grade study was justified upon the basis of the results indicated by this table.

Even many of the larger cities find themselves handicapped in making an age-grade-progress study, on account of inadequate records. In smaller districts, this study is quite impossible. Yet its appraisal value is far greater than that of the age-grade study, because it goes into the problem of individual adjustment in a far better way.

Summary. A brief examination of present conditions in child accounting has been made from the standpoint of (1) attendance; (2) attendance records; (3) individual records, and (4) appraisal records, and, from evidence easily available, it is apparent that a great field exists here that demands study, organization, and careful development.

[9]Retardation and Acceleration by Years. (Taken from Detroit Age-Grade Surveys).

Year	Three Years or More Retarded		Three Years or More Accelerated	
	Number	Per Cent	Number	Per Cent
1907	3,011	7.7	10	0.03
1908	3,162	7.4	62	0.10
1913	4,242	7.5	17	0.03
1914	4,190	6.8	29	0.05
1915	4,241	6.2	31	0.05
1916	4,523	5.7	42	0.05
1917	4,534	5.3	47	0.05
1918	3,442	3.7	106	0.10
1919	2,730	2.8	301	0.30
1920	3,251	3.2	238	0.20
1921	3,926	3.6	299	0.30

CHAPTER IV

THE NEED OF THE STATE FOR CHILD ACCOUNTING

THAT particular aspect of the American political organization —the individual state—will be considered as the major unit[1] in the development of a scientific basis for child accounting.

The perpetuation of successful government in a democracy or a republic depends upon a general diffusion of knowledge to enable the group to follow intelligently the program developed by its leaders and consider such program in the light of their needs and requirements. The consideration of any other premise than free universal education in a popular government must eventually lead to rule of the mob, to government by minorities and extra-legal agencies, to the development of oligarchy, or despotism. As illiteracy advances, democracy recedes.

Theory of Public Education. It is this general theory of universal education that lies behind our present system of free public education. The purpose of such training is to preserve the state in the best interests of society, and so to develop the individual that he may achieve the greatest happiness, and thus make his best contribution to his own and to the group welfare.

Education was conceived and developed as a state function upon the theory of the right of the state to preserve itself. Upon this basis the people of the several states have passed numerous

[1]The need of the federal government is similar to that of the several states and can be attained through the collection, analysis, and comparison of uniform general state records.

mandatory laws which state how much, and during what period, education shall be given to the individual.

The control of the state over education during the first six years of life is now negligible. The home functions to the most complete degree during the period of infancy. The state steps in when the child attains the age of six or seven and specifies in a very definite manner what shall be done with him in the way of training until the age of fourteen or sixteen, and, in some states, seventeen or eighteen years has been reached. The state specifies the amount of attendance and the general achievement in terms of an accepted course of grade standards but this training may be secured in free, in non-public tuition schools, or their equivalent, at the option of the parent. It is the function and privilege of the state to specify the requirements and to furnish the means of meeting them, still leaving to the parent a choice of standard agencies.

Compulsory Period. Over a period of approximately ten years the state requires an accounting for every child for its own protection. During this time at least one-third of the individual's time is devoted to performing imposed duties. The state makes its greatest impression upon the growing individual during the compulsory school age. In theory, if the public schools functioned perfectly, the product should be a perfect citizen, an industrious and self-sufficient, law-abiding individual. Schools are human institutions, however, and the material with which they gropingly deal is extremely complicated. After the end of the compulsory school age, home, industry, society, religion, and politics take up the greater portion of the daily life. The control of the state is now felt in a more or less negative way, except when the individual runs counter to the law, or immediately after the passage of some mandatory law which interferes with well-established habits. In the average case, it has few time-taking contacts after the twenty-first year. The state is taken for granted, and the individual's casual relations to it are confined to intermittent periods of voting, when the spirit and the press move him, and to negative criticism of governmental activity by his chosen representatives.

During the impressionable period of ten years, from seven until sixteen, however, the state occupies a very important part in the life of the individual. It is providing an expensive equipment and a moderately expensive teaching force to give him the opportunity to acquire knowledge and skills essential to individual and social well-being. If we consider the expenditures of local, county, and state government as a single item, the process of training for citizenship seldom takes more, proportionately, than one-third of the public budget. In view of the ever-increasing total expenditures for the city, county, and state governments, the actual revenue applied to free public education is no inconsiderable amount.[2] Since education is considered of enough importance to have made it a state function, and to spend relatively large amounts in its maintenance, it is reasonable to assume that the state is entitled to know what is happening to the children entrusted to its care and what value is actually being received for the expenditures thus incurred.

Rights of the Child. The most important asset of the state is the child, and the knowledge required by the state should be directed first to discover what is happening to the child. In our democracy the right of every child to a free public education in accordance with his native ability, in order that he may have equality of opportunity in the struggle for the good things of life, is no longer seriously questioned. If ignorance of parents or economic conditions seek to prevent, it becomes at once the duty of the state to see that every child is allowed to take advantage of this opportunity. Such enforcement is not alone social justice to the individual, but is common sense from the state's standpoint, for ignorance and social instability are two costly luxuries we can afford to do without.

Necessity for Records. The state ought first of all to keep a definite record of its children, so that it may be assured at all times of the enforcement of the provisions for free public education. The basis of such information is the school census. Through

[2]Expenditures for public education in 1920 amounted to 1.5% of the total national income. G. D. Strayer in Detroit Educational Bulletin, Vol. 7, No. 2, pp. 16-20.

this head count the state first learns of the possible demand for education. As an annual survey it is now largely used as a revenue-securing activity and only in a vague way as a means of accounting for the child's education. By means of a continuing school census upon a state-wide basis, it would be possible at all times to determine what proportion of required service is given and how many children are missed.[3] To carry on a permanent continuing census successfully requires a universal system of uniform accounting procedure and transfer. On the other hand, the individual school districts are constantly in need of accurate data to keep them informed in respect to educational conditions in other parts of the state. One of the great values of state educational records lies in their development for field use.

District Responsible. Child accounting procedure should have as its basic principle the *responsibility of each district to the state for every child of school age in the district, as long as such child may be resident therein.* The responsibility has been generally evaded by the adoption of the "temporary left" rule for the sake of acquiring a high attendance per cent. Such procedure is indefensible and should be abandoned at an early date. It has worked harm in several directions, first, by setting up a fictitious per cent of attendance which deceives only the layman and, secondly, of greater importance, such practice is the cause of "losing" many children permanently by dismissing them as "temporary lefts." For the protection of both the child and the state, the responsibility of each district for every one of its children must be recognized and faithfully borne. The continued absence from school of any child of compulsory school age can only be justified to the state on the basis of the legal grounds provided for such absence. A scientific procedure demands accurate accounting for each individual, and uniform rules providing for such accounting should be put into operation by the state, with insistence upon their being carried out in both letter and spirit.

Means of Enforcement. The third factor in a state-wide

[3]Even under a fairly well worked out system of child accounting, one of the large cities in 1922-23 had 11,730 children of school age who were not in attendance. (See Eightieth Annual Report, Detroit Public Schools, pp. 5-7.)

child accounting system is the means of enforcement. The cities are now fairly well provided for through visiting teachers, attendance and truant officers, and, in some places, the police. The child accounting problem is, however, in all of its phases, a purely educational one, and should be entrusted only to men and women trained in the field of modern education. In its larger aspects, attendance is a health and social problem, with truancy and incorrigibility playing a very minor part. The teacher with the special training of a social worker is best fitted for the delicate task of effecting the social adjustments necessary to bring school and home into closer harmony. In many such cases, the employment of the policeman or the average attendance officer tends to produce the same result as attempting to repair a delicately adjusted watch with a claw hammer. The establishment of a child accounting department in each city, under the control of the superintendent, and in each county for the rural and consolidated districts is necessary to perfect a means of educational articulation between state and district.

Communication of Enforcement. The state is interested in the cause of withdrawal and the movements of the children within the state. If the child leaves one district for another, the state and the second district must be apprised of the fact or the child may be lost. Such knowledge may be secured through a simple system of notification of entry and withdrawal, from local departments to the state. The state is also interested in the amount of time the individual spends in school. Such information can be secured through the preparation of monthly or annual consolidated attendance reports.

School Progress. Other important factors to the state in the accounting for the individual child are the studies which pertain to school progress, the adjustment of the curriculum to the children, or the efficiency of the schools. These include age-grade-progress surveys, nationality, health, promotion and failure studies, and studies of the results of instruction expressed in terms of achievement. At first glance such an array of information seems almost impossible to secure, but this difficulty is

apparent rather than real. A simple technique[4] has been developed that makes it easily possible.

Value of Reports. What is the value of these data? The age-grade report shows retardation and acceleration, and may serve as an index for general comparisons between schools, districts, or larger units. It merely indicates the problem and presents mass conditions that demand further study. Closely allied with the age-grade distribution is the age-grade-nationality distribution. A number of surveys[5] have consistently shown a close relationship between nationality and the proportionate length of school life. The age-grade-progress study, possible only when individual records have been carried over a period of years, is an attack from the standpoint of the individual instead of the group. It tells the story of the individual's rate of progress through the grades, and indicates problems that are not discernible in the age-grade study. In the last analysis, all detailed study of educational problems must center about the individual.[6] Promotion and failures indicate again problems for study, for a large number of failures may mean lack of adjustment of the curriculum to individual differences, poor teaching, lack of understanding or sympathy, bad initial classification, predominating nationalities that are generally serious retardation problems, or absence due to health conditions. It is again merely a starting-point for investigation to ascertain the facts from which the causes may be determined. The results are available for the consideration of the instructional expert in the development of the curriculum.

Health is another factor of great value in the study of educational conditions. Research along these lines has generally taken the form of developing group standards of growth and then measuring the children in terms of such standards.[7] Such studies reveal the number of children seriously under weight, in relation to the average of the group, and direct remedial attention to these

[4]See Part II—Chapter XI.

[5]Age-Grade-Nationality Surveys—Detroit. Educational Bulletin, Research Nos. 3 and 7.

[6]A technique for the taking of such a study is presented in Part II—Chapter X.

[7]Excellent work on the subject of child health and growth has been done by Bird T. Baldwin, Thomas D. Wood, L. Emmett Holt, and Ward Crampton.

individuals. The Detroit study[8] showed a consistent correlation between the weight-height ratios and school progress. Those children who, on the average, were taller and heavier were uniformly accelerated in their grade standing. If all of these factors are closely related to school progress, then their study is indispensable in an intelligent search for causes of school success and failure.

Knowledge of Teachers. The state needs to know also the condition of its teachers, their professional training, their salaries, their working load, and the physical conditions under which they must maintain themselves. Such information must be considered as a complementary factor, along with the others mentioned, in the consideration and analysis of the results of the instructional process. Knowledge of the age and length of service of teachers is necessary for the proper administration of a retirement pension or annuity.

Second in importance to the education of the child is the means of accomplishment—money. The state is interested not only in the distribution of specific funds for educational purposes but also in the manner in which they are expended. Accurate financial reports of income and expenditure and of unit costs are required for the intelligent administration of a state-wide educational program. It is of serious concern to the state whether certain districts employ only partially qualified teachers at salary rates that represent persons with considerably less than minimum professional requirements. Children inadequately taught by them may move to other sections or remain where they are, and finally take their places in the ranks of citizens with equipment of a distinctly lower grade than in surrounding districts. One way in which the state can adequately check such conditions is through the medium of carefully prepared, complete, fact-disclosing fiscal reports. *While the cost of education must always be subordinated to the results, the ideal should be the securing of the best results with the smallest outlay of money possible in light of*

[8] *Preliminary Study of Standards of Growth in Detroit* by P. C. Packer and Arthur B. Moehlman—Detroit Educational Bulletin, Research No. 5, June, 1921.

the program. Scientific comparison and publicity are big factors in the review of expenditures.

Summary. The necessary state educational records may be summarized as those dealing with child accounting, with teacher accounting, and with cost accounting. Of these, child accounting, which includes also a reporting of instructional achievement, is of the most vital importance, but must be supplemented by the other two if the true condition of the state's educational program is to be determined.

CHAPTER V

THE NEEDS OF THE SUPERINTENDENT

THE public schools exist for the child. Activities necessary to their operation and administration are subordinate in character to the satisfaction of the child's instructional needs. Finance, operation and maintenance of buildings, general administration, and research, all very important in themselves, become mere agencies or means, instead of ends, when viewed from this standpoint.

The most important needs of the school board and the superintendent are for reports, statistics, and data which tell what amount of instructional service is being rendered, how well the school is functioning, and the results, expressed in terms of unit achievements. The physical and mental condition of the child, the condition of the school, and the degree of success or failure in the application of the curriculum through the medium of classroom instruction, are of primary importance to the superintendent. After these come the various details of administration, necessary agencies only because they facilitate the instruction of the child.

Records and reports required by the school board and the superintendent in the administration of the schools are fairly general in character. The superintendent must of necessity deal with instructional and administrative problems in the group, while the particular school works directly with the individual. This does not mean that the individual is lost sight of in the central system—the proper organization of instruction and child accounting will prevent that—but simply that the general ad-

ministrator is immediately concerned with these problems in their larger or general aspects.

Collection Agency. The first essential agency for securing information for the superintendent is the child accounting unit. The data gathered, the records kept, and the results analyzed are basic for all other activities or agencies. The child accounting department bears the same relationship to school organization as the stomach to the body. Into it is poured all the information from the entire school system, and here it is sorted, digested, and analyzed for the benefit of the school board, superintendent, and principal. Its organization should therefore be given the greatest consideration in respect to the training of its personnel.

Superintendent's Needs. What then are the specific record needs of the school board and the superintendent? The guiding principle in the development of reports and statistical data must be *use*. If a report does not present specific and necessary information that is of aid in developing better schools through a better knowledge of conditions, it is not worth while spending time and money to secure.

The information necessary to the successful administration of a public school system should be at least as searching and complete as that required in the conduct of ordinary business. School boards and superintendents have been operating, and many of them still are, on the type of information that would wreck any industrial corporation in a short time if the case could be paralleled. The remarkable thing about public education is that huge sums of money have been spent without any real accounting for its results in terms of a social product. The development of exact records, accurate and constant knowledge, and the organization of such knowledge in intelligible form to patron and layman is one of the needs of the public schools.

The school board and the superintendent should have at the end of each month what, for general purposes, may be called a balance sheet of the school system, using the term in its wider sense.

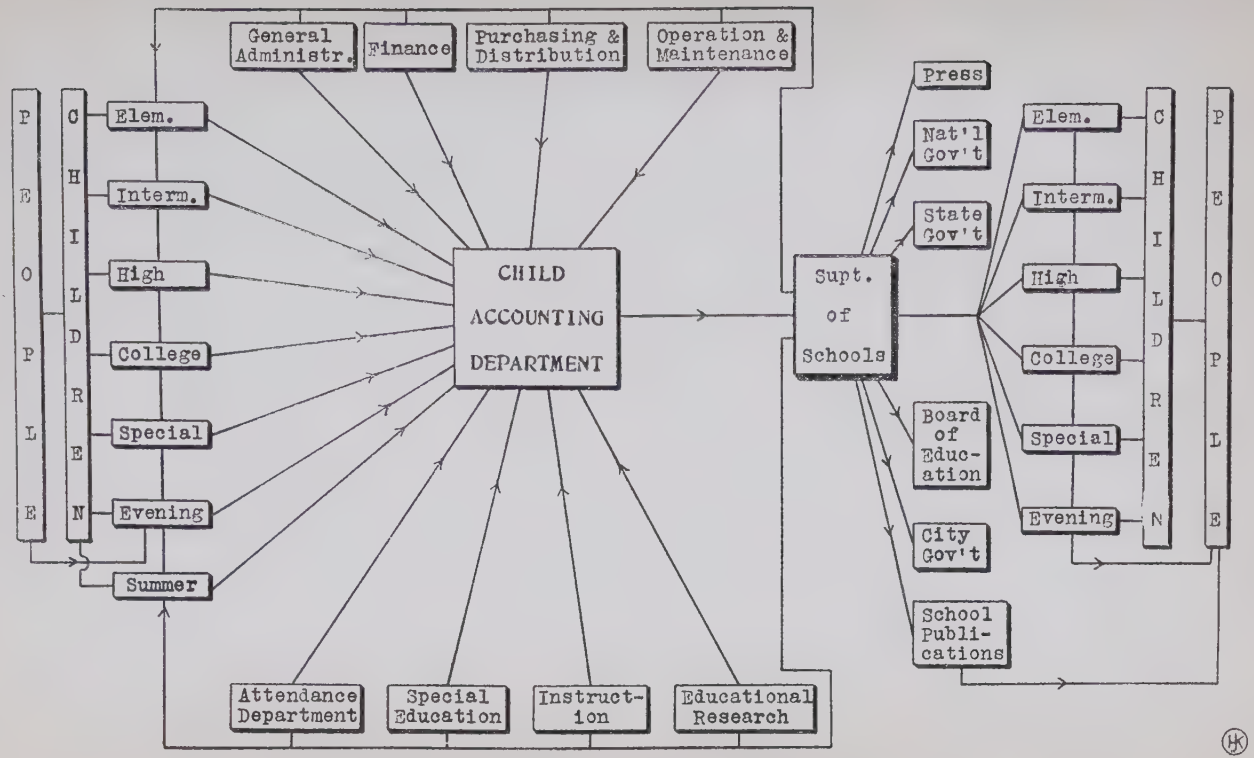

FIGURE 8—FUNCTION OF CHILD ACCOUNTING DEPARTMENT

The superintendent needs to know the exact condition of his system from an instructional, child accounting, and financial standpoint. This information may take the form of a series of three reports, or, in smaller cities, may be combined into one. In the teacher-superintendent, or principal-superintendent group all of the data will probably be gathered by the chief official personally. The size of the system does not affect the range of necessary information, it merely decreases the size of the problem in respect to volume.

Instructional Reports. Primary consideration should be given to instruction. This section of the monthly accounting should include analysis of the results of achievement tests, the relation of scores by schools and grades to the city scores, and complementary information in the form of age-grade distribution, retardation and acceleration, nationality, retardation by nationality, promotion and failure, health records, children new to the system, and their source. From the factors thus brought together an index for administrative use can be developed. The question arises as to the possiblity of making such report monthly. The term monthly in this connection is used advisedly as a time unit for the gathering of material.[1] If general achievement tests are given twice a semester, then such instructional report would be prepared twice. Instruction results may be expressed objectively in units of individual achievement or progress, and, if this is done, it is not a difficult matter to prepare such information every month. Complementary studies that are made only once a year, such as age-grade, nationality, and health surveys, or each semester, as in the case of promotion and failure reports may be presented shortly after the time of collection. In addition to showing current conditions, similar data for the previous year and a summary of the last report, together with comparative comment, can be produced in a general summary.[2] Such a report would show at a glance, in a rough way, the existing instructional conditions.

[1]Where possible all data is more effective when illustrated by simple diagrams.

[2]In large systems this report would be prepared by the instruction department and in smaller systems by the superintendent himself or by someone delegated for that purpose.

The results of achievement tests indicate the relative progress of the individuals. The age-grade, age-grade progress, promotion and failure studies, on the other hand, are appraisal instruments that tend to show the degree of adjustment of the individual to the educational program, the curriculum. In conjunction with records of teacher training and efficiency they make possible serious study of program, teacher and child in their mutual relationships. The data they present opens the way to further research and experimentation that will ultimately mean greater progress and efficiency in both schools and community.

In general the instructional report should be so prepared that at stated intervals this information may be sent to principals and teachers to aid them in field practice.

Child Accounting Report. The second division of the monthly balance sheet would deal specifically with child accounting in phases other than instructional. The continuing census furnishes the total number of school age by age-groups, the number in public schools, in non-public schools, those not in school, and the reasons. The next section may contain a general summary of the school membership, by type of school and by grade, together with a statement of conditions the previous month and for the corresponding month in the previous year, giving increases and per cents of such increases. The third subdivision would include a summary of housing conditions, showing the number of children inadequately served, on part time, in overcrowded classes, in basement rooms, in old and inefficient school buildings, together with comparative statistics from the previous month and year. This would again be followed by a detailed study of the number of children in school in relation to school capacity, showing overload and underload.[3]

Report on Teachers. Closely allied with the second division is a third on teachers. The first section should include a distribution of classes by size, by school, and an analysis of the

[3]All such material can be illustrated diagramatically and such presentation adds much to the general effectiveness and ease in consideration.

teaching load by schools. A proper monthly consideration of such information will result ultimately in economy in administration. The second section may be a monthly balance sheet on teachers showing absences, resignations, absence on leave, additions to the force and promotions, while a third subdivision presents a distribution of salaries by type of school or schedule classification.

Financial Report. The last division of the monthly report is financial. Monthly cost statements in education are practically without meaning because the unit of time is the semester and not the month, and secondly, because public schools are not on a time-production unit basis as in the case of a factory. The presence of many variables is another disturbing factor. Monthly financial reports that are of practical value include a balance sheet, a statement of balances by appropriations, and the condition of the various personal service funds in relation to probable balances or deficits at the end of the fiscal year. The last is particularly valuable to the executive in his consideration of teacher additions in relation to available funds.

Although these sections of the monthly report are varied in their nature, they are all closely related to child accounting and dependent upon this department for their data.

Annual Reports. The second series of reports required by the superintendent may be classed as the annual type. These are for three purposes: first, as a basis for the preparation of the annual financial program; second, the development of cost data; and, third, for the annual report or summary of the year's work. The basis for budget development is derived from child accounting records. The first essential, the probable number of children, can be ascertained only from careful study of scientifically exact child accounting records of school membership.[4] The amount required for personal service depends upon the extension of the curve of growth, considered in relation to other determining

[4]For technique of budget development see article by author on The City Budget in *N. E. A. Department of Superintendence Proceedings*, 1923, or *American School Board Journal*, April, 1923

factors apart from the schools. In like manner it forms the basis for determining the amount of supplies, special equipment, etc. In the case of the building program,[5] every factor is built upon the interpretation of child accounting records. As large sums of money depend upon these records, it is economy to pay for their accurate gathering, keeping, and analysis.

The proper period for which to develop cost records is the school year. Many of the variables, such as supplies, coal, etc., tend to adjust themselves during a 12-months cycle, and, in cases where they do not, proper adjustment can be made by balancing with other years.

Nothing in the way of cost analysis is possible without accurate child accounting records, and for this purpose the average daily attendance and the total number of student (instruction) hours are used.

The annual report records for all time a summary of school conditions during any given year. It brings together in printed form much of the material that the superintendent receives monthly, and summarizes in narrative current policies and current progress. The basis is the record of the child.

Summary. In conclusion, the requirements of the school board and the superintendent are for complete monthly reports of a summary character, touching upon all phases of the school activity and prepared from the standpoint of the instructional needs of the system. The basis of all these data rests upon a system of child accounting, complete in its scope, accurate in its fact-finding character, and scientific in its organization and analysis of material.

A further value lies in the use of these data, carefully analyzed and considered, in the schools themselves. To secure the best results the superintendent should return to the principal and teachers the compiled results, with suggestions and directions, in order that they may be further used in the improvement of instruction, supervision, and administration.

[5]For use of child accounting records in developing a building program, see article by Paul C. Packer in *Detroit Journal of Education*, Vol. II, Nos. 2 and 3, 1921-22.

CHAPTER VI

THE NEEDS OF THE TEACHER

THE need of the teacher for child records is the exact opposite from that of the superintendent. The teacher requires detailed individual records, for she, on the firing line, deals with the child in small groups. She requires all of the information it is possible to secure about the individuals under her charge in order that the classroom program and method may be better adjusted to meet the individual differences that exist in every graded group.

Desirable school records may be divided into two groups, working or current, and permanent. Working records may be classified as those for daily use in the classroom and consist of memoranda on health, emotional reactions, achievement on standard tests, and other lines of endeavor. Working records in each case, while furnishing the same data found on permanent records, are much more detailed in character.

Permanent Records. Permanent records may be divided into six groups: first, those dealing with the past performances of the child in respect to routine classroom work and on achievement tests, expressed in terms of school marks; second, performance on mental tests; third, continuous information of the child's physical condition; fourth, information in respect to the social or home conditions; fifth, a series of memoranda indicating ideals and character; and sixth, a place to record vocational tendencies and aptitudes. To be of the greatest value such records must be continuous.

The teacher's and child's requirements for permanent data of past achievement may be efficiently met by the development of a cumulative individual record card upon which such performances are brought together. Such a blank should provide for scholastic performance, in terms of semester marks and physical development, from the kindergarten through the high school. The recording of achievement test scores may at the present be carried through the intermediate grades and probably ultimately through the high school. Provision for mental test records may be comprehensive enough to carry through the senior high school grades. Social conditions can be generally ascertained from nationality, home language, and the parental economic status. Ideals and character may be roughly determined by notes on the emotional characteristics of the child as these are displayed in the classroom and in the socialized activities of auditorium, library, and playground. Vocational interests and likes may be noted as they develop. The value of such cumulative individual records to the classroom teacher is apparent.

Record cards in the past have provided generally for only a single factor, classroom achievement in terms of a semester mark. There is abundant reason for this. It is only since the war that mental and achievement tests have come into general use. The tendency has been to consider these various aids to instruction as ends in themselves instead of correlating them closely with other school records in order that the teacher might have performance from as many angles as possible. The argument might be advanced that all of these tools are still in a crude state and therefore not to be taken too seriously. The same argument might be applied to other classroom measuring instruments. It must be apparent to any serious student of education that all of our instruments for measuring individual performance are very crude but they are the best we have at the present time and may be used to advantage if used intelligently.

Daily Records. The cumulative record card described above is a semester or a quarter card, depending upon the particular school organization. A daily record or class register is required by each teacher to use as a journal for current entries.

Such register or daily record may be bound, in looseleaf, or in the form of small cards. It may provide in detail for daily achievement, for health records, performance on standard tests and other desirable facts that may be recorded to assist in the better adjustment of the individual child. Each method has its own advantage and each can be used successfully. The choice will depend upon individual preference based upon previous experience.

Attendance Records. A third record necessary for the teacher is the teacher's class record book in which is recorded entry, withdrawal, absence, and tardiness. Such record must be carefully standardized and used in a uniform manner, for from it comes all of the child accounting data required, first, by the superintendent, and second, by the state. Such record book should be either furnished by the state or specified carefully in order to secure uniformity. In the preparation of this form it is desirable to carry such carefully developed instructions that the keeping of the record will be as simple as possible.

Home Card. The fourth record, to maintain the necessary contact between home and school, is known variously as the monthly record card, the home card, and report of work card. It should furnish in non-technical language a statement of achievement that would be intelligible to the average parent. The parent's signature may be required each time such record is sent home.

These four child records are basic to the success of a state-wide child accounting system. They provide first of all the essential information of past achievement required by the classroom teacher. While principals may require other reports from their teachers, the number varying in accordance with local practice, such additional reports are either supplementary or for the purpose of securing the same information in other ways and in duplicate form.

From the four can be gathered, by compilation, all of the data required for age-grade, age-grade-progress, nationality and health surveys, promotion and non-promotion, or appraisal studies.

General studies developed by the administration from the school surveys should be returned to the school, used by principal and teacher in comparing the conditions in her school or class with the norms for the city as a whole, and then in determining the reason for variations in light of modifying factors. In this way the teacher will be stimulated to seek the causes for present conditions and attempt adjustments accordingly.

Summary. The permanent records needed by the teacher are individual and detailed in character and can be covered by four forms, the cumulative individual record blank, the daily class sheet, the teacher's class record book, and the card reporting the condition of work to the home.

At the present rate of educational progress, made possible by careful and constant field research, it is highly probable that within a few years many of the current record details discussed in this chapter will be secured in a different manner than at present. The basic need will probably not vary much. In another part of this book[1] provision is made to cover such needs in the light of current practice.

[1]See Chapter XI.

CHAPTER VII

THE GENERAL ORGANIZATION

THE development of the general organization is built upon the premise that uniform child accounting is necessary for the welfare and protection of the children as well as essential to the teacher, principal, and superintendent in the administration of a particular school or school district. The basic principle underlying the organization of a state-wide child accounting system is the educational need for a permanent and continuous record of every child.

Admitting that this necessity exists, the establishment of the state as a unit is advisable for several reasons: (1) education is a state function and should be considered from an administrative standpoint in terms of such unit; (2) the development of state supervision over various activities calls for the keeping of exact records, and (3) there is need for accurate knowledge for the apportionment of state aid to the several school districts.

The beginnings of a child accounting organization lie in the census divisions of the state department of public instruction and in the attendance or compulsory education departments of the city and county school systems. Child accounting now starts with the survey of children of school age in the state—the annual school census. Eventually such accounting by the state will start with the new born baby and carry through a complete record in accordance with pre-school needs. Since the organization is

already developed this task will probably be assigned to school districts. The method and time of taking such a head count is specified by law and the method will vary somewhat with the several states. With the legal machinery for the census set up and a law defining the age of compulsory school attendance and conditions of non-attendance, the required foundation has been laid. The function of the several units in the organization will be discussed in the following pages.

The State. There are eight general divisions into which the functions of the state department of public instruction fall. These are:

(1) Administration;
(2) Supervision;
(3) Child Accounting;
(4) Teacher Certification;
(5) Finance;
(6) Appraisal;
(7) Publications, and
(8) Legal.

Child Accounting Division. The child accounting division and its organization will be considered here. The function of the child accounting department is: (1) to keep accurate and complete records of the educational status of every child of school age within the state; (2) to develop from such records usable and valuable statistics to serve as working indices for the administrative and supervisory branches of the state department and for the several school districts; (3) to develop permanent and continuous statistics for record keeping purposes; (4) to maintain continuing records of teachers and qualifications, teaching loads and salaries, and teacher turnover: and (5) to determine apportionments of all state funds in the manner prescribed by law.

The Census. The first function of the state is to see that the census is taken according to law by the several school districts. Method and general procedure should be set forth by the state department and the proper blanks printed by it in order that uniformity may prevail. The next step is to check these returns against names already in the state records to prevent duplication and the missing of children. After the initial checking, this state record can be kept on a continuing basis. That is, all new entries

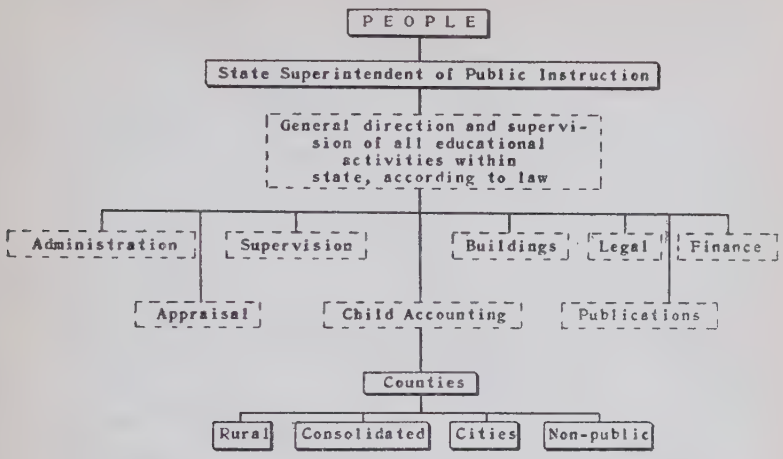

FIGURE 9—STATE CHILD ACCOUNTING ORGANIZATION

The solid lines indicate a position or a physical unit. The broken lines indicate a function.

into and withdrawals from a district should be reported immediately to the state department to keep the records constantly up to date.

Since most of the state aids to education are based upon school population one of the first duties after the checking of the census is to determine the apportionment of state monies for the succeeding year.

After the continuing census has been established and this head count used for state aid apportionment, the next duty is to determine how many of the children of compulsory school age are actually in attendance and to check up those who are not. It is therefore necessary to hold every district responsible for each child of school age in residence until such child has moved to another district or is accounted for in a legal way.

Child Accounting Rules. Such procedure presupposes a set of definite school accounting rules under which the local units shall keep their records. These rules must be so carefully drawn that there is little room for wide interpretation which would tend

to defeat the end in view—the accounting for every child educationally. The rules recommended as a basis for such accounting follow:

Registration. (R.) Registration shall designate the first entry of a child in a public or non-public school system during the current school year, and shall be recorded at the first session the child is in school. Registration is an increasing number which cannot be diminished.

Total Registration. (T. R.) Total registration shall include every child who has been in attendance at any time during the year, counted only in and for the school of original registration.

Received by Transfer. (R. T.) Pupils are to be received by transfer from any public and non-public school within the state. These transfers shall not be added to registration.

Losses. (L.) This item shall include transfers and losses to other educational institutions or permanent withdrawals from the school district.

Permanent withdrawals shall include: (1) all pupils discharged to institutions; (2) discharges by reason of employment permit; (3) discharges on account of marriage; (4) discharges on account of death; (5) all discharges of over and under compulsory school age children; (6) discharges by high school graduation; (7) discharges to another school corporation; (8) permanent expulsion of pupils according to law; or (9) expulsion for mental incompetency.

A pupil must not be marked left until the date when he has actually been received in another school or district within the state has been ascertained.

A pupil is to be considered as a member of a school until he is known to have been permanently discharged by reason of death, removal from the district, or been discharged as a result of having fulfilled the requirements of the compulsory education laws. It is understood there shall be no *temporary withdrawals*. In the case of children of compulsory school age, the proof of permanent withdrawal for any of these causes shall be furnished by the superintendent or child accounting department.

Membership. (M.) Membership shall be registration plus receipts by transfers minus losses. Membership in a school shall continue from date of entrance until the close of a school year except as provided for under losses.

Average Membership. (Aver. M.) Average membership shall be the aggregate of the daily membership for the school year divided by the actual number of days school was in session.

$$\frac{\text{Aggregate Membership}}{\text{No. days of school}} = \text{Aver. M.}$$

Average Daily Attendance. (Aver. A). Average daily attendance shall be the aggregate of the daily attendance for the school year divided by the actual number of days school was in session.

$$\frac{\text{Aggregate Attendance}}{\text{No. days of school.}} = \text{Aver. A.}$$

Monthly Per Cent of Attendance. (M. P. A.) This item shall be secured by dividing average attendance for any single month by the average membership for the same month.

$$\frac{\text{Monthly Aver. A.}}{\text{Monthly Aver. M.}} = \text{M. P. A.}$$

Average Annual Per Cent of Attendance. (Aver. P. A.) This item shall be secured by dividing the average attendance for the entire year by the average membership for the same time period.

$$\frac{\text{Aver. A.}}{\text{Aver. M.}} = \text{Aver. P. A.}$$

Student Hours. (S. H.) A student hour may be defined as a pupil instructed for sixty minutes. It may be secured in the following manner: Daily attendance times length of instruction period in clock hours.

Daily Attendance $\times$ Clock Hours of Instruction = S. H.

Marking System. The development of a uniform accounting and transfer system also presupposes a uniform system of marking in order that transfers may be readily understandable in any community they happen to reach. Marking systems are not uniform, however, although the tendency appears to be in that direction. The following five point letter system[1] is therefore advocated for general use:

A—Excellent	E—Failure
B—Good	I—Incomplete
C—Fair	X—Absent from examination
D—Barely passed	Dr—Dropped

If it is felt that a five point system does not permit enough flexibility it can be transformed into a nine point system by the use of intermediate values such as B+, C+, etc.

[1]In order to convert a series of letters on a particular subject into a single letter value, the following point values may be used: A—4; B—3;C—2; D—1, and E—0. The letter value shall be assigned which corresponds to the average of these points expressed in the nearest whole number (e. g.3 .5 =4).

Progress Inventory. In addition to the first group of state department functions, those dealing with the actual accounting for the child in attendance at school, there are the complementary appraisal divisions of progress such as age-grade and age-grade-progress[2] reports of the several systems showing retardation and acceleration; nationality and health surveys, and promotions and failures. Other reports dealing with finance and costs, with teacher load and class size, with teacher training and salaries are all necessary for an intelligent administration of the state's educational system[3].

In addition, the needs of superintendents of schools, school boards, and the state department are for a series of carefully prepared bulletins issued at regular intervals in which comparative and analytical statistics and records derived from the child accounting reports discussed earlier are presented for use as indices at such times when their value will be greatest. These bulletins may include the following subjects:

1. Teacher salary, professional training, and supply and turnover bulletin;
2. Age-Grade and Age-Grade-Progress bulletins;
3. General Child Accounting bulletin;
4. Cost analysis bulletin.

The adoption of such procedure would leave to the annual report its real function of providing for permanent record an educational inventory of the state during the fiscal year.

The Local Unit. The local units in the state organization are ultimately the county and city districts. Their functions and duties are similar. The county school executive should have in his organization a department similar to that of the state, and which, in addition to acting as a clearing house for the general school districts in the county, is also a field organization in the

[2]Cannot be taken until individual cumulative records have been kept carefully for a number of years.

[3]See Chapter IV.

actual carrying out of the state school laws through attendance officer, visiting teacher, or social worker. Information necessary for the functioning of the state department can be gathered by this division and uniform records kept. The transfer of a child from one district to another would clear through the county office and the individual records of all children permanently left, exclusive of those transferred, may be kept here.

The child accounting department in the city school district is an enlargement of the function in the county made necessary by the size of the unit.

The functions of such a department may be considered under five heads.[4] The first is that of gathering child records of all descriptions. Reports are compiled, analyzed and prepared in accordance with the needs of the superintendent.[5] The second duty may be classified as the activities necessary for the enforcement of the compulsory education laws, and the third, the carrying on of activities dealing with industrial relations such as the issuing

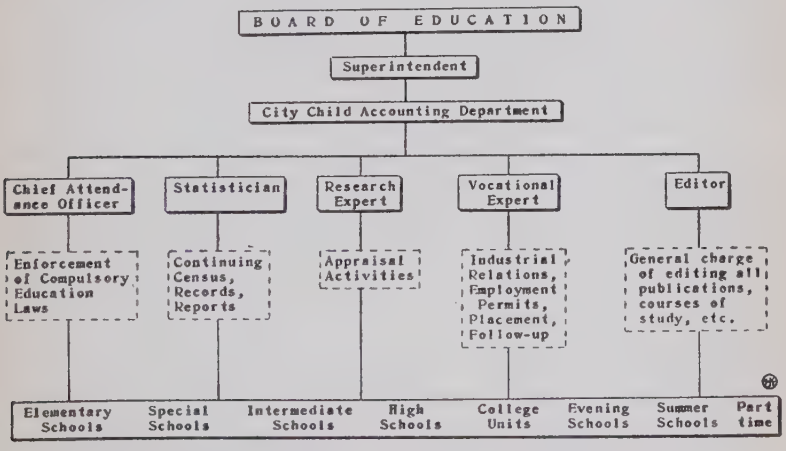

FIGURE 10—LOCAL CHILD ACCOUNTING ORGANIZATION

Solid lines indicate an organization or a position. Broken lines indicate function.

[4]See Chapter IV.

[5]See Chapter IV, for detailed analysis.

of employment permits, industrial placement, and followup, or supervision. The fourth essential function is the research activity essential to the progress of any organization, classified in the organization chart under the child accounting or statistical division, and the fifth, publicity in respect to general conditions and responsibility for publications, including bulletins, reports, courses of study, etc.

Child accounting is only one of the five general functions of the superintendent, and when the system reaches a size requiring its delegation, it should be with the distinct understanding that the department is subordinate in all respects to the superintendent. Any other conception would be impossible from the standpoint of scientific school administration.

Federal Records. The need for federal records can easily be satisfied by a compilation of the uniform records of the several states without appealing directly to the individual school districts. The state records discussed in previous chapters will give all details required for a comprehensive summary of educaion activities for the country as a whole. Federal records may be considered as duplicates of those used by the state.

The development of federal records from uniform state records will tend to decrease the time spent at present by the several states in preparing their reports. At present, with no uniform procedure, each district and state must laboriously translate its records into the terms employed by the Bureau of Education.

CHAPTER VIII

THE ADMINISTRATION OF CHILD ACCOUNTING

THE administration of a state system of child accounting may appear to be very complicated, but in actual practice it is quite the reverse. While certain child records are continuous, and the time for compilation of certain others is set by law, it is desirable that the state department gather its information at different intervals in order to relieve the burden on local districts and so distribute the labor in the state office that the reports can be quickly and expeditiously compiled and analyzed and the results returned to the field in time to be of value to superintendents and teachers.

Financial reports and cumulative attendance data must be received at the close of the fiscal year. Census returns from the annual enumeration are also due at a certain date and must be cared for at definite times. It is desirable therefore, to make the age-grade or age-grade-progress survey during the second week in October, on the September 1 age basis. State wide tabulations and comparisons by districts, in simple bulletin form, could then be prepared and sent to superintendents about the close of the first semester. Nationality and health surveys, if made annually, could be taken at the same time as the age-grade report, but if desired bi-ennially or every five years could better be compiled during November or December.

The distribution of teachers' salaries report might be called for in November of each year. The information could be tabulated and analyzed, produced in bulletin form, and returned to super-

intendents and school boards for their use long before contracts for the succeeding year were due. Other reports could be distributed in like manner, the particular time depending upon local conditions.

The administration of the purely accounting activities may be most easily understood by tracing a number of individual cases through the necessary steps, illustrating each case by simple diagram. To make the illustration specific, Michigan will be used as the example.

1. Child Entering From Another State.

The first case is that of a child entering Michigan schools from a neighboring state. As this is the *first entry* into a Michigan school he will be a *registration* in school A and will be entered upon the *Cumulative Record Card* (form 9), to be rechecked upon the receipt of his previous status and in the Teachers' Class Record Book (form 10). The school in which he has registered sends notice of his receipt to the Local Child Accounting Department (city or county) on Form 15. The Local Child Accounting Department fills out forms 2 and 3 for its *continuing record* and mails notice of the child's receipt into the state to the *State Child Accounting Department* on form 5. The state department enters him in the proper district on form 2 and the record is complete. The child will be checked, his schools noted, his educational record kept continuously until he leaves the state, dies, or becomes of legal age. The following figure illustrates the procedure.

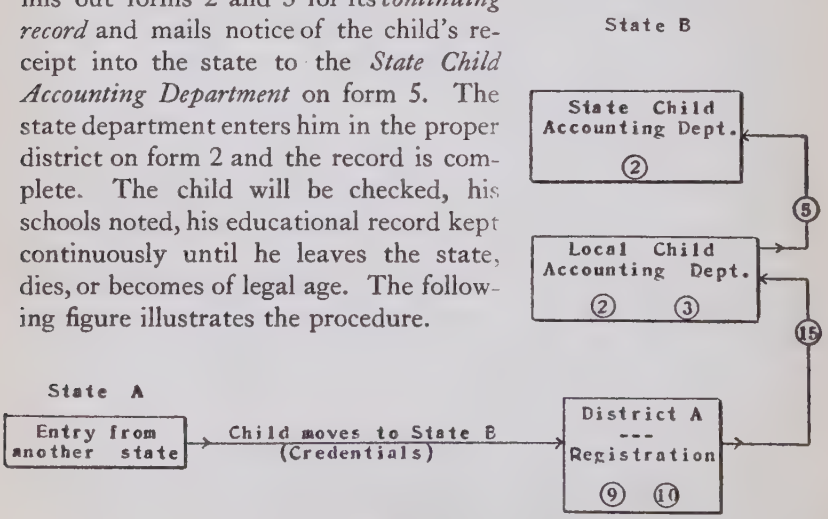

FIGURE 11

2. Child Moving From One District to Another Within the State.

In the second case this same child, let us assume, after remaining in district A for half a semester moves with his family to district B. The following procedure would prevail. District A sends a *notification of leaving* (form 13) to the Local Child Accounting Department and (form 14) to the school or district to which the child intends to move. The cumulative record (form 9) is mailed to the new school or district. *The Local Child Accounting Department* mails a *notification* of the child's leaving (form 5) to the state department. District or school B receives the child as *entered by transfer* and so marks him in the *Teachers' Class Record Book* (form 10). The state department notifies the *Local Child Accounting Department* (form 18) that the child is transferred to district B, which in turn notifies the proper school (form 4). Upon entry, the school or district apprises the Local Child Accounting Department of this fact (form 15). The Local Child Accounting Department then fills out forms 2 and 3 for him and notifies the state and district A of the child's entrance (form 5). Upon receipt of notice of entering in district B he is marked left in the *Teacher's Class Record Book* district A (form 10) under the proper heading. The case is complete. The following figure is illustrative.

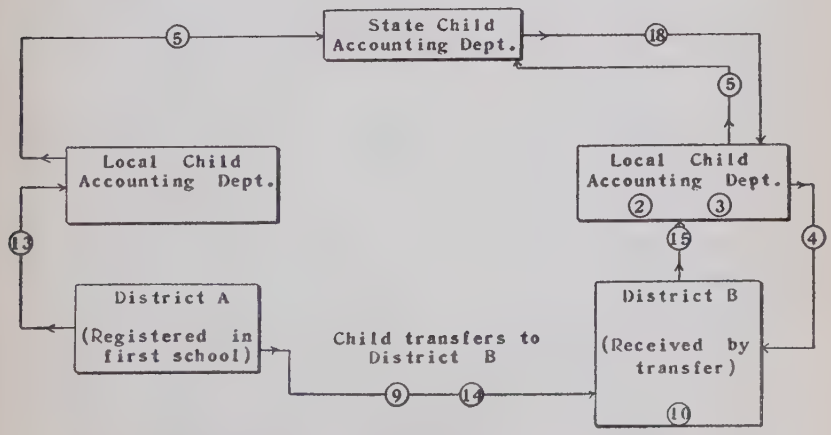

FIGURE 12

3. Transfer From One School to Another Within the Same District.

This child's family has not alighted permanently, and during the second semester of residence moves to another section of the city. The child *transfers* from school B to school C. School B sends notification of this fact to the *Local Child Accounting Department* (form 13) and to the new school (form 14). School B also mails the child's *cumulative record* (form 9) to school C. At school C the child is entered (form 10) as received by transfer. The *Local Child Accounting Department* notifies school C of the transfer (form 4), and upon entry of the child, school C notifies the Local Child Accounting Department (form 15). In case of transfers within a district, the State Child Accounting Department *plays no part.* This case is illustrated by the following figure.

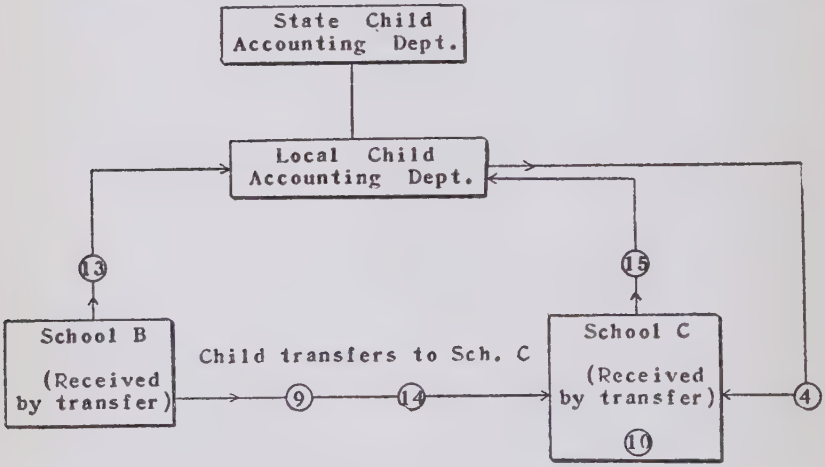

FIGURE 13

4. Child Entering School for First Time.

This child has a younger brother who is just below school age. He enters school for the first time. School A classifies him and fills out the proper forms (9 and 10). Notification (form 15) is

sent to the Local Child Accounting Department, which in turn *notifies* the state department (form 5). The following figure is illustrative.

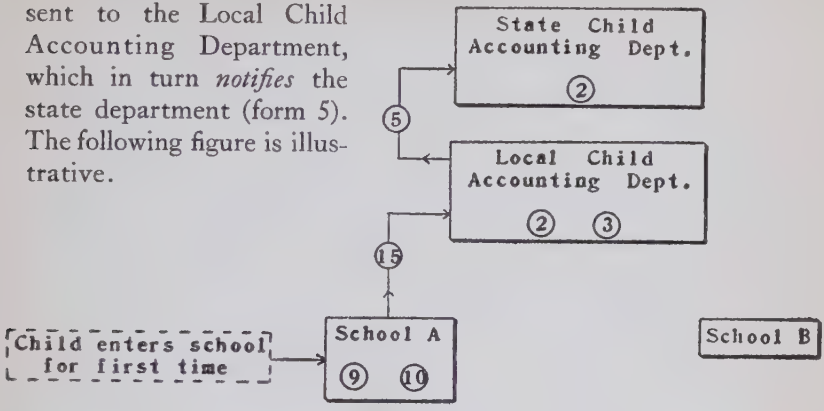

FIGURE 14

5. Over Age Child Leaves School.

A child over school age decides to leave school. The Local Child Accounting Department is notified (form 13), and the child's cumulative record (form 9) is also mailed to the local department. He is marked *left* under the proper heading in column three of the Teacher's Class Record Book (form 10). If the age conditions are as represented, the Local Child Accounting Department notifies the State Child Accounting Department (form 5) and the record is complete.

6. Under Age Child Leaves School.

A child under the compulsory school age is received at the beginning of the semester and registered. In December the parent decides to withdraw him. The Local Child Accounting Department is notified (form 13) and the child's cumulative record (form 9) is also mailed to the local department. The child is marked left under the proper heading in column three of the Teacher's Class Record book (form 10). The Local Child Accounting Department notifies the State Child Accounting Department (form 5) and the cycle is completed.

7. Employment and Non-Attendance Permits.

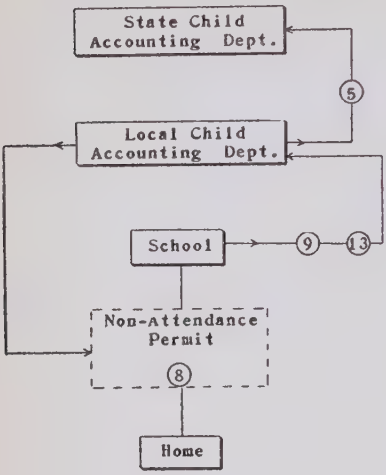

FIGURE 15

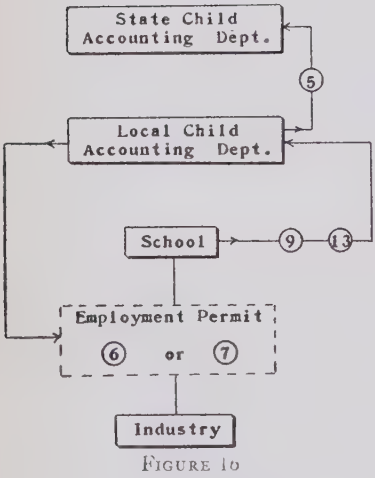

FIGURE 16

In the case of granting full-time employment permit, part-time employment permit, or non-attendance permit the following procedure will prevail. The child signifies his intention to enter employment or to remain at home for either economic or health reasons. The Local Child Accounting Department acts upon the application of parent, after investigating. If any one of these permits is granted the school of which the child is a member should be notified and the child marked "left" in the proper subdivision of the Teacher's Class Record Book (form 10), and his cumulative record (form 9) sent to the Local Child Accounting Department. The Local Child Accounting Department will notify the state of this condition (form 5). Figures 15 and 16 show these transactions graphically.

8. Commitment to an Institution.

The procedure outlined under 7 will prevail in this case. The

burden of proof is upon the Local Child Accounting Department. Court notification should be sent to it.

9. In Case of Death.

The procedure outlined under 7 will prevail in this case. The official record of death should be received by the Local Child Accounting Department and the proper notifications made.

10. Non-Attendance.

In case of non-attendance of children of school age, the State Department will notify the superintendent's office on form 20. The superintendent will send a notice of assignment (form 4) to the school district in which the child lives. As soon as the child is in school, the school will notify the superintendent (form 5), who, in turn, will notify the state.

State Procedure. The procedure in the state department[1] after the continuing census is established, would be as follows:

(1) Upon report from district A (form 5) that John Jones has moved to district B, John's card would be removed from district A file to district B file, and district B notified of John's change (form 18).

(2) Upon notification from the local department (form 5) of the death of Edith Brown, her card would be removed, a record made on the mortality sheet of name, district, nationality, grade, age, and cause of death, and the card destroyed.

(3) Upon notification from the local department (form 5) of the removal of John Doe to another state, John's card would be removed to the "*other state*" file and indexed under the particular state to which he has moved.

[1]For ease it is recommended that the names kept by the state be filed, first by counties, as the major divisions; second, by districts within each county, alphabetically, and third, alphabetically within the district.

(4) Upon notification from the local department (form 5) that Nellie Bell has been granted a non-attendance permit, such entry would be made upon her card, and a cross index card filed in the "non-attendance file".

(5) Upon notification from the local department (form 5) that an employment permit had been granted to Edward Allen, such entry would be made upon his card, and a cross reference card filled out and filed in the "employment permit" file.

Summary. The state administration of a uniform child-accounting system is routine after the organization period has passed. It requires careful clerical attention, both in state and local departments, for the carrying out of the simple contact rules. These contacts have been formalized in a series of simple record blanks that require only the filling in of the minimum essential information. There is nothing burdensome, complicated, or intricate about such a system.

CHAPTER IX

STATISTICAL METHOD

SCHOOL administration has been subject to frequent criticisms for absence of scientific method. These attacks have been so frequent in some localities that the phrase "to run like a school," when applied to other conditions, is synonymous with very low efficiency. Such criticism has extended not only to the public schools but to institutions of higher learning as well. One of the most fruitful fields of criticism has been the general child and financial accounting practices. It has been claimed, and with no small degree of truth, that child accounting systems were designed to do everything but tell the truth, and that financial accounting was only a means of hiding from the taxpayer the purpose for which his money was expended. If we may be permitted to paraphrase Voltaire, educational statistics of the not very distant past seem to have been devised generally to conceal facts. For these criticisms the educator has himself to blame. Certain carefully cherished traditions in respect to per cent of attendance, tardiness, etc., have led to the upbuilding of a mass of faulty statistical records in which even a layman, let alone an administrator, could place little confidence.

Since the beginning of the scientific movement in education, the public school administrator has had brought home to him more clearly the value of accurate information developed for the sake of facts and not for results, and there has been a strong tendency in most cities towards a scientific procedure. In these centers a new feeling of respect may be noted for school adminis-

tration. Such feeling will strengthen and become general only as the several states look more carefully to the administration of their schools and place them upon a fact basis.

The application of the statistical method to education has resulted in the growth of a large mass of statistical technique and information. The function of this statistical information is to present a general view of a complicated, intricate, and extensive situation that would be impossible to secure otherwise. It is one of the means that is enabling us to forge ahead in the organization of the science of education. The use of statistics is two-fold: (1) for current analytical and comparative purposes, and (2) for permanent record.

A large portion of the measurement of administrative educational data is quantitative, although progress is being made in qualitative measurement of instructional results.

The principle underlying all educational statistical procedure is the impartial, comprehensive, and accurate collection of data for fact-finding purposes. The collection of material that has no practical value and can serve no definite purpose ought not to be attempted. In the application of statistical method to child accounting, there are a number of steps that must be carefully considered. These are: (1) the collection of data; (2) classification; (3) tabulation and arrangement; (4) analysis; (5) the summarization of conclusions; (6) form and presentation, and (7) use.

Success in the field of educational statistics depends upon the accuracy and completeness with which the original educational data are collected. A carelessly taken census, when compared with membership, may show an unusual number of children in school. Upon the basis of such returns, search for "lost" children may be omitted, because most of them appear to be in membership. The danger lies in the fact that it is covering up the real problem.[1] Attendance data imperfectly collected will result in an

[1]In one city, operating under the three day "temporary left" rule the teachers were so careful to secure good attendance that, during the influenza epidemic of 1918-19, there was apparently better attendance than during normal times. In actual fact the attendance was closer to 50% than the 95% shown by the official records.

entirely erroneous conception of child health, for a high attendance per cent naturally fails to focus attention upon the question of child absence. Disease conditions might easily pass unnoticed if the statistical measure of attendance is apparently high and satisfactory. Fortunately, norms are gradually being developed to detect gross errors of this type, but extreme emphasis must be placed upon accuracy in the initial collection of facts.

Classification, tabulation, and arrangement are closely related. In the case of tabulation, the size of the problem will determine whether hand or machine methods be employed. The machine is fast and accurate, but, unless the results desired are different from a mere count tabulation, it is less expensive to employ the hand process. Large age-grade-nationality, health, age-grade-progress, attendance, promotion and failure studies are best made by use of the tabulating machine. Achievement tests, on the other hand, are simpler and cheaper to tabulate by the hand process. Arrangement depends upon the nature of the data and the information required. The general rules governing statistical treatment apply here.[2]

Analysis and summarization of the data are extremely important steps. Some data lend themselves very easily to analysis and others do not. The tendency of drawing hard and fast conclusions from insufficient data is very dangerous and quite prevalent today in educational administration. It cannot be too carefully guarded against, particularly as the pressure in the administrative field from board members and others interested is inclined to be strong. Again, upon the analysis of such data may depend the expenditure of millions of dollars in the way of buildings and equipment, or thousands of dollars for teacher service. The treatment should at all times be sane and conservative.

Form and presentation are vital factors in the success of educational statistics. As a general proposition, all data should be presented in the simplest form possible, described in non-technical language that is intelligible to the layman, and graphically illus-

[2]For details of methods see *Statistical Method Applied to Education*, by H. O. Rugg, Houghton-Mifflin Co. (1917), or *Statistical Methods* by T. L. Kelley, MacMillan Co. (1923).

trated wherever possible. If it is necessary to carry detailed technical tables, these may be placed in an appendix, in order not to break up the narrative. Educational data can be made interesting or dull, depending upon the treatment or form. The failure of numerous excellent projects may be traced to poor organization of excellent material.

Use of child accounting statistics may be of four kinds: (1) for records; (2) administrative; (3) appraisal; and (4) for field purposes. In practice the data will probably serve all these purposes either successively or simultaneously.

It has been the tradition and practice in public school education that teacher and principal perform all the record-keeping and statistical duties. As a result, the teacher, untrained in the past for such tasks, has felt them an added burden and rebelled against work for which she saw no use. The principal has gradually been developed into a routine administrative officer with the real importance of his supervisory function lost sight of.

At the present time, the majority of teacher training schools give courses in elementary statistics, their value, and the general technique of application. Teachers are gradually accepting the statistical routine as part of their work. There is a healthier reaction to record activities than formerly, especially as they begin to see their value as diagnostic data.

The entire present practice is not economical. As a matter of good administration, teacher and principal should be quite free from the work of record keeping altogether, for this work can be more efficiently and economically handled by a trained statistical clerk. As current instruction records increase in complexity, the time required for such work will become greater, and the teacher needs to be given all the relief possible in order to devote her full time to teaching. In like manner, the principal ought to find himself so situated that his major time can be given to the supervision of instruction with routine administrative duties reduced to a minimum. It will still be necessary to train both teachers and principals in statistical method, but its use will be confined ultimately by them to study and analysis rather than collection and tabulation.

PART II. Child Accounting Method

THE general theory underlying the detailed child accounting technique and practice developed in the following chapters is to present a skeleton outline of essential contact forms and permanent records, rather than to evolve a hard and fast system, routinized and formalized to the *nth* degree. It is the feeling that the standard forms suggested present the permanent and continuing record necessity, and that their primary purpose will continue unchanged, although form and content will change as progress is made. Current records have therefore not been discussed in detail, because they require freedom to develop with method, and their form is relatively unimportant if they serve the desired end.

The child accounting system outlined has the advantages of simplicity and ease in administration by placing uniform and definite checks upon all schools by the state; providing for the collection of fact-finding and fact-disclosing data, and insuring permanency as to function and method. For the sake of uniformity, it is desirable that all of the basic forms discussed later in this volume be either printed by the state department of public instruction and furnished to the several districts of the state in accordance with their needs, or that the right to print, upon uniform specifications, be given to the districts themselves. The control of the general accounting forms should rest with the state department of public instruction.

CHAPTER X

THE SCHOOL CENSUS

THE basis of any complete child accounting system is the school census, taken originally solely for the purpose of securing revenue from the state educational funds. In recent years, however, the school authorities have been realizing to a greater degree its value as a means of enforcing compulsory education laws and checking the amount of service, in terms of attendance, given by the community's educational institutions.

The functions of the school census are: (1) an index of the possible amount of educational service a community must be prepared to give; (2) a check upon the effectiveness of school service to the children that the state law requires to be in school; (3) a head count as a basis for state financial aid; (4) a basic aid in the development of building programs and the development of school districts; and (5) a means of ascertaining the probable needs for school facilities in the kindergarten and the first grade, by study and consideration of age-groups below five years.

The great value of the annual tabulation of child age-groups lies in its continuity, and it is therefore necessary that the school census be continuous. By a continuing school census is meant an uninterrupted and constant individual record of every child between the ages of five and twenty-one years, made originally from a head count and checked constantly against membership and attendance in the schools of the district. At present, the term continuing census is largely construed as the checking of one annual head count against that of the preceding year.

The school census should be taken of the five to twenty-one age-group at the regular stated times provided for by state law, and in addition, should also include age-groups below five.

The school census must be analyzed from two aspects: (1) that of the district and (2) that of the state. The first is the field collection agency, and the second is the central accounting bureau for all of the children within the larger educational unit —the state.

The Local Unit. The best standard unit in the collection of the census in city districts is the block or square. A block may be defined as the square formed by the north, east, south, and west sides of four intersecting streets, or of three intersecting streets in the case of diagonals. The adoption of a standard minimum unit will result in flexibility and ease of adjustment in comparisons over long periods of time, when original districts or ward limits have been changed as a result of growth or physical development. The block units can be built up into either wards, zones, building, school, or health districts as the needs and desires of a particular community demand.

The school district or township may be used as the census unit in the county, outside of the villages and cities, for the block system is only desirable and necessary in large urban centers.

Taking the Census. The steps in the development of the continuing census, together with desirable forms, may be briefly outlined.

The first form or field sheet[1] is used by the enumerator in collecting necessary information at the time specified by law. The basis of this form is the family. The field sheet should contain the present address and the last previous one, the names of all individuals, their sex, age, date of birth, country of birth, citizen or non-citizen of the United States, their educational

[1]The printing specifications for form 1 are:

FORM No. 1—Census Field Sheet. SIZE: 11″ wide by 5½″ high. STOCK: No. 1 Railroad Manila, Yellow. COMPOSITION: as per diagram. PUNCHING: ¼″ round, 5½″ C. to C., ¼″ from top. Put up in packages of 100 banded two ways. A copy of this form appears in the appendix.

status in respect to public or non-public school attendance or non-attendance, and prominent physical defects, such as deafness, blindness, and handicapping crippled conditions, related particularly to serious orthopedic defects. The fact of home ownership or non-ownership may be desirable in establishing the fact of population stability.

For classification purposes, the block number and other detailed information of this nature may be added. In small units the field form may also be used as the permanent form, although it is not advised.

Permanent Record. The information from the temporary or field form may be transferred next to the permanent[2] or continuing individual record (form 2). These records for convenience in checking and ease in the securing of data by units, such as blocks, building zones, and districts, may be filed by street or by block, whichever is preferred by the particular locality. The permanent individual census record has plenty of space to allow for change in address within the district, and provides a series of spaces for the date of birth. It has been found in the case of foreign-born families that it is difficult at times to secure accurate information in respect to the date of birth at the first enumeration. In succeeding counts more accurate information may be secured, so provision for the possible change is made, together with a statement of the source. There is space for recording the name of child and of both parents or guardian. A large portion of the form is devoted to the school history of the individual, giving name, date of entry, and date of withdrawal, together with the reasons. The entire back of the form may be used for additional entries in regard to infractions of the compulsory school law.

Master Card. For greater ease in locating individuals in large districts, an alphabetical master file[3] may be kept. This

[2]The printing specifications are:

FORM No. 2—Individual Census Card. SIZE: 8″ wide by 5″ high (exact). STOCK: No. 1 Index Bristol, White, 140 lb. COMPOSITION: as per diagram. A copy of form 2 is shown in the appendix.

[3]The printing specifications for form 3 are:

FORM 3—Census Family Master Card. SIZE: 5″ wide by 3″ high (exact). STOCK: No. 1 Index Bristol, White, 110 lb. COMPOSITION: as per diagram. A sample of the individual card for a non-visible master index is shown in the appendix.

card can be used at the same time as a family card (form 3) giving simply the names of both parents, their address, and the names of the several children, together with the date of birth. Such information is in frequent demand, and should be quickly and easily available. For the master file, any small-sized card, 3″ x 5″ preferred, can be used, or, in large units, a visible index form may be desired, in which case the type of card used depends upon the make of the apparatus.

Supplementary Forms. There are six other supplementary forms required by the Local Child Accounting Department. The first of these is form 4, Notice of Assignment of Child to School or District,[4] which is sent to a school by the local department as soon as notice of a transfer is received from another school within the district or from the state department. The form is of mailing card size, and may be printed either on a regulation postal card or upon a mailing card requiring the use of a one-cent stamp.

Form 5 is the Notice from the Local to the State Child Accounting Department,[5] and is used by the local department to notify the state of arrivals and withdrawals of children. It should be mailed to the state department within 24 hours after such arrival or withdrawal. It may be printed either on the regulation postal card or as a mailing card requiring the attachment of a one-cent stamp.

Employment Forms. The permits for employment (form 6), for part-time employment (form 7), and for non-attendance (form 8) are fairly well standardized by law in the several states, and will not be discussed in detail here. Behind each of these final forms are certain others for social investigation, which contain the certified information the law requires before such permits can be granted.

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[4]The printing specifications are:

FORM 4—Notice of Assignment to Local Child Accounting Department. SIZE: 5½″ wide by 3¼″ high. STOCK: Government Post Card, Bristol. COMPOSITION: Front as per diagram, back Local Child Accounting Department address. An illustration of form 4 may be found in the appendix.

[5]The printing specifications for form 5 are:

FORM 5—Notice of Entry or Withdrawal to State Child Accounting Department. SIZE: 5½″ wide by 3¼″ high. STOCK: Government Post Card Bristol. COMPOSITION: front as per diagram, back Local Child Accounting Department address. This form is shown in the appendix.

A notice (form 20) to the Local Child Accounting Department[6] from the state concerning non-attendance of children of school age within the district may also be used by the district as a notice to the individual school of which the child is supposed to be a member. This form should be used as soon as either state or local department ascertain that a child of school age is not in school, and may be printed either as a regulation postal card or as a mailing card requiring the use of a one-cent stamp.

Machine Tabulation. In larger districts, and in the state where detailed and correlated data are demanded, the tabulation is most easily done by the use of tabulating machines.[7] There are two ways of tabulating results, the first by means of the individual card, and the second by use of a family card.[8] Some operators prefer one method and some the other. As a matter of speed in punching the cards for machine use, the family card will tend to reduce greatly the amount of necessary punching, effecting a large saving in money costs for personal service. In running the cards through the sorter and tabulator, the use of the family card will secure the complete results at a smaller outlay of time. For local purposes, the family card is preferred, and the information may be punched directly from the field sheet (form 1).

The family card provides for three children, enough to care for the average group. If there are more than three children, a second card can be used. The column "Number of Children at Home" can be used for a check. The card is so arranged that the first sort can be made by district and block and later by street.[9] Detailed information for both parents is included, but if this tabulation is not desired, the columns headed "father" and "mother" can be left blank. For the children are given the sex,

[6]The printing specifications are:

FORM 20—Notice of Non-Attendance. SIZE: 5½″ wide by 3¼″ high. STOCK: Government Post Card Bristol. COMPOSITION: front as per diagram, back Local Child Accounting Department address. Form 20 is shown in the appendix.

[7]Any make of tabulating machines will produce the desired results, but the writer's experience in tabulation of educational statistics is confined to the Hollerith type.

[8]For state purposes the individual card is the practical form.

[9]The family card shown on page 86 is designed for the Hollerith machine and may be secured from any official agency.

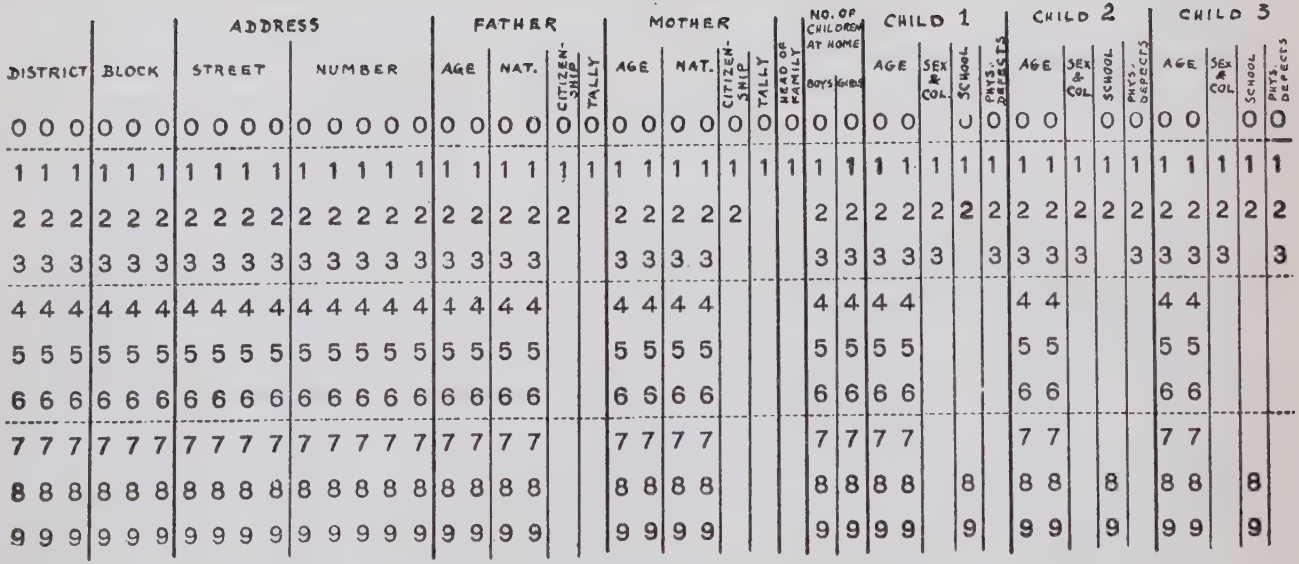

FIGURE 17—CENSUS TABULATION CARD (FAMILY)

age, color, school, or employment status, and general physical defects. From this card can be secured the total census for the entire city, the number of families, nationality, age-groups, and other required information about the children.

The State. The state will receive its information from the districts upon individual record forms, a slight variation of the individual record card (form 2) used by the district. Such forms will serve as the continuous individual state records.

The cards can be filed in the state department in the following order: (1) alphabetically by county; (2) alphabetically by township and city within the county; (3) numerically by district within the township; and (4) alphabetically within each district.

The permanent individual record card [10] should furnish the following information: (1) name of child; (2) date of birth of child; (3) address of child; (4) name of father and mother or guardian; (5) nationality of father; (6) school attended; (7) physical defects— deaf, blind, or crippled; (8) home language; and (9) county and district.

It will take approximately three years to eliminate errors under any change in system, and it is therefore desirable that each district, for the three years following the adoption of the state continuing census, send a card for *every* child at the usual time required by law. After the system has been established and the districts are making continuous reports on the supplementary forms discussed earlier in this chapter, it will be necessary to report annually only those children who have become of school age since the previous report. Over age children will be automatically removed from the state record which will be a live file of all children of school age.

The establishment of a continuing state census will ultimately relieve the cities and the school districts of a great amount of clerical work at certain times of the year.

[10] A Copy of this form may be found in the appendix. For printing specifications, see form 2.

After the permanent individual record card has been filed, the district should be required to inform the state department of the removal from school of any child of school age for any of the reasons set forth in the rules previously given.[11] The state department in turn should notify the new district to which the child has moved, in order that complete record of such removal be kept. The result will be, after three years, a state census that is continuing, with changes and additions made constantly during the year. Such a system will also prevent the duplication of names between districts.

Summary. From this continuing census, the state could secure the following desirable information at any time:

1. The number in age groups by district and for the state;
2. The number in each age group in public or non-public school;
3. The number of children of school age, by districts, not in school. This information would enable the state department to bring enough pressure to bear on the local districts to force these children into school;
4. The nationality of each child and the home language;
5. Handicapping physical defects such as blindness, deafness, and crippled conditions;
6. The shifting of population from rural to urban centers, from urban to rural, and between states;
7. The amount of non-attendance due to economic or physical necessity, and
8. The amount of employment among minors.

[11] See Chapter VII.

CHAPTER XI

SCHOOL RECORDS

SCHOOL child accounting records may be simple or complex. The tendency in the development of such records has been to add here and there something new as the occasion seemed to demand, still retaining all of the old. The result has been a gradual piling up of cumbersome records that are of comparatively little value and expensive to compile.[1] The propensity to do what has been done, rather than disturb accepted routine and develop the new, is probably responsible for that condition.

Child accounting records within the school may be simple in form, easy to maintain, and yet furnish the facts essential to good teaching and administration.

Individual Record. The basic permanent school record is that of the individual child. Such record should be cumulative, containing an account of the child's grade-progress in terms of semester marks; his achievements on the basis of mental and achievement tests; the story of his physical condition and development, vocational aptitudes, and a description of his ideals and character, in so far as it is now possible, with our imperfect technique, to secure these data. This form should be continuous and follow the child from school to school in the district, as he progresses from one type of school to another, or in the state, as his family moves about. Upon leaving permanently, the cumulative record should be filed with the Local Child Accounting Department and retained there for future reference.

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[1] A certain city now requires 52 different kinds of reports from its schools.

Within a school such record may be kept in one copy or in duplicate, depending upon administrative desire. It is recommended to be kept in duplicate, one copy filed in the office, and the other in the home room, where it is immediately available for the use of the teacher.

The educational value of so complete a cumulative record is obvious. Without it the teacher is in the same position, relatively, as a doctor treating a patient without knowledge of his previous social, physiological, and medical history. In both cases the treatment must proceed by the trial and error method, a costly and not particularly efficient procedure. The more objective information, carefully standardized, the teacher can secure, the better for the child and the easier for the teacher.

The proposed cumulative individual record card is a six-page, three-fold (5″ x 8″) blank.[2] On the first page there is space for the general personal information, such as name, date of birth, address, name of parent or guardian, occupation of parent, country of birth of child and parents, and home language. Sufficient room is provided to care for the moving of the average child in respect to street address and schools attended. The remainder of the page is given over to a record of his elementary school work.

The second page is devoted to a recording of subject achievement in intermediate and high school grades, bringing together a record of the 13 years of kindergarten, elementary, intermediate, and high school life.

An attempt has been made on the third page to carry, in as simple a form as possible, the basic achievement in both achievement and mental tests. In considering achievement tests, composition, handwriting, reading, spelling, and arithmetic have been included. Provision has been made for inserting the names of three tests, and for including in all of them the grade level.

[2]The printing specifications for the cumulative record and transfer are:

FORM 9—Cumulative School Record and Transfer. SIZE: 8″ wide by 14″ high. STOCK: 40 lb. Linen ledger, White. COMPOSITION: as per six diagrams. (Should be wax plates.) SCORING: Across the 8″ to make a 5 x 8 and two 4½ x 8 sheets. Reproductions of form 9 may be found in the appendix.

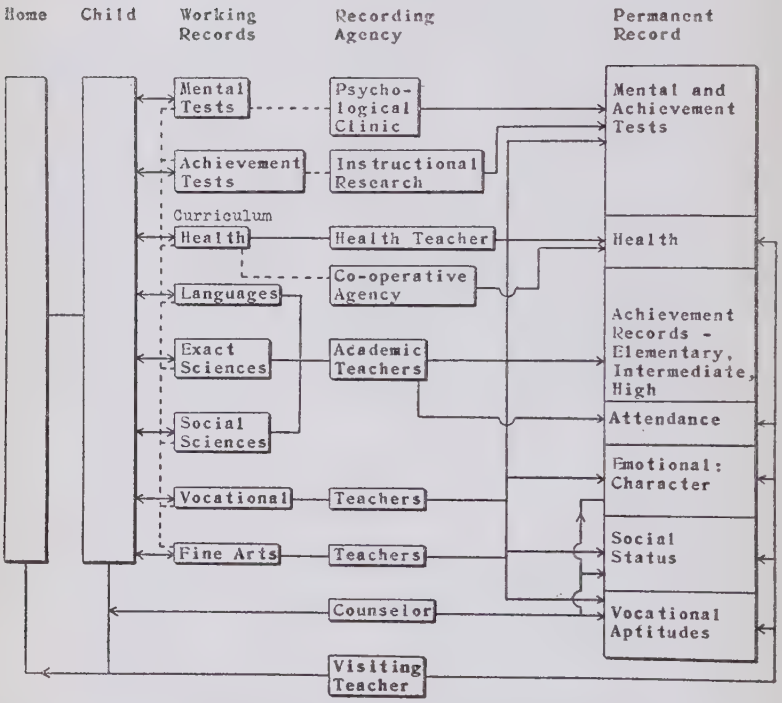
Space has been provided under mental tests to enter the name of the test, the date, chronological age, score, and letter rating, in case of a group test—mental age and I. Q., in case of an individual test—together with the grade level. The data secured from the records of achievement tests must be cautiously used, for we have not yet the complete knowledge of their meaning. Within a few years, there will probably be developed a method of securing a variability ratio that will be of greater service. The data recommended for the present form is that now available.

The fourth page carries general suggestions for the recording of emotional and temperamental factors. While we know that such factors play a very important part in the success or failure of the individual, our technique of recognition and control is so vague that it was thought desirable to include only the most general and basic items, allowing the teacher the widest liberty in the recording of such traits. The factors included are those of: (1) ideals and character; (2) self-appraisal or judgment; (3) self-direction or initiative; and (4) coöperative effort and social attitudes.

Careful consideration was given to the possibility of adding a record of vocational tendencies and aptitudes to assist in vocational guidance. The technique of vocational counseling is still in such an embryonic state that it was felt wiser not to attempt any standardization in this field, but merely to allow space on page five for general entries of this character.

The sixth page is a cumulative health record of the individual, with space for the recording of physical examinations from the kindergarten through the twelfth grade.

In this form an attempt has been made to bring together the several factors that contribute to success and failure, with the thought that the basic data—(1) heredity; (2) environment; (3) nationality; (4) classroom achievement; (5) emotional life; (6) health condition; and (7) vocational tendencies—will always be necessary to successful school instruction.



SOURCES OF PERMANENT CHILD RECORDS

FIGURE 18

Teacher's Class Record Book. Second in importance to the cumulative individual card is the teacher's class record book,[3] in which may be noted the child's entry, attendance, absence, and withdrawal from school. It is the means through which the district can be assured of the quantity of educational service rendered. Such record must be kept with the greatest possible degree of accuracy, with the purpose of presenting the actual facts and not a condition that may appear desirable. The bases of the accounting record are the rules governing entrance, attendance, and withdrawal presented in Chapter VII.

The nature of school organization now makes the individual teacher[4] responsible for the maintenance of such record. The teacher's class record book (form 10) is designed for a semester's use, and is built upon the accounting rules previously set forth.[5] On the inside of the front cover are detailed instructions governing use. While this book is designed for the use of a single class or half grade, yet two pages, 80 spaces, are provided to record entries and withdrawals, ample provision for city schools where the turnover tends to be large. Beginning with page three, the left-hand folio contains the monthly accounting form, while the right-hand folio provides working spaces for the columns that require additional operations. On the inside of the back cover is a table for determining quickly the student hours of instruction.[6]

Temporary Records. Teachers and principals are inclined to differ in respect to the form of detailed daily scholarship and attendance records. As these are intermediate or temporary records, supplementary to the basic forms, there is little need for standardization. Personal preference of some teachers

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[3]In the larger intermediate and high schools, such records are generally kept by smaller groups of teachers, by grade principals, or through the office.

[4]See page 78.

[5]Chapter VII, page 62.

[6]Form 10 appears in the appendix. The printing specifications for form 10 are:

FORM 10—Teacher's Class Record Book. SIZE: 9½" wide by 12" high, 12 pp. and cover. STOCK: 28 lb. Ledger, White. Cover 125 lb. No. 1 Tag. RULING: as per diagrams. Pages 1 and 12 like diagram A; pages 2, 4, 6, 8, 10 like diagram B; pages 3, 5, 7, 9, 11 like diagram C. COMPOSITION: as per diagrams. Directions for use of book on three pages of cover. BINDING: Saddle-stitched in 2 places.

is for a bound class register, others like the loose leaf sheet, and still others prefer an individual card system. All three have their merits and their defects. The type of intermediate or temporary forms for keeping attendance and scholarship either on loose sheets, individual cards, or in bound registers may be left to local desire.

Student Hour Report. Record of instruction given and of the teacher load, important to the superintendent in the administration of the teachers and buildings, as well as in cost accounting, are easily prepared each week by use of the student hour report form.[7] This record provides space for the course number, grade, class membership, daily attendance, total attendance, and student hours. Periods are provided for departmentalized elementary, for intermediate, and for high schools. In traditionally organized elementary schools the teacher would use the space after period I for the morning and after period II for the afternoon session. The daily labor involved in the preparation of the report is very small, and its value in analyzing class size, teacher load, and building use is great. Like the individual record card and the teacher's record book in child accounting, the student hour report is the basic record in teacher accounting.

Consolidated Monthly Attendance Report. The individual attendance records are combined monthly for the school on the monthly attendance report[8] (form 12). The monthly reports by schools are consolidated again on the same form for local and state use, making three uses, by school, by district, and by state, for the same form. The attendance report shows the registrations and the receipts by transfer, classified according to source. In the third column are the withdrawals or lefts, transfers to other schools, and permanent withdrawals. Column six gives

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[7]A sample of form 23 appears in the appendix. The printing specifications for form 23 are:

FORM 23—Teacher's Weekly Student Hour Report. SIZE: 4″ x 6″. STOCK: No. 1 Sulphite Bond, 16 lb., White. RULING: Printers'. COMPOSITION: as per diagram.

[8]This form is shown in the appendix. The printing specifications for form 12 are:

FORM 12—Consolidated Monthly Attendance Report. SIZE: 17″ wide by 11″ high. STOCK: 24 lb. Ledger, White. RULING and COMPOSITION: as per diagram. Directions on back of sheet, as per copy. PUNCHING: ⅜″ round, 7″ c. to c., ¼″ from edge.

the per cent of actual attendance during the current month, while column 12 shows the average per cent of attendance for the semester.

In column 15 are placed the instruction hours by grades. The accounting is kept by grades, and the classification used is the now generally accepted one of kindergarten—six elementary grades—three intermediate grades—three high school grades, and special classes. It matters little whether the district classification is the (8-4), (6-3-3), or (6-6), since grades are recorded as single grades, any desired total or unit can be secured. On the back of this form are printed the definitions of terms used.

For the purpose of consolidating the several room reports in the individual school, a special form (12a) is desirable.[9] The sheet, upon which the standard column headings of the attendance report are printed, provided with 30 or 40 lines to permit careful tabulation of individual books before consolidation, will be found of great value.

Class or Housing Report. In larger school systems, a monthly class and housing report[10] is extremely valuable. Such a form shows the size of class, the teacher load, when considered in conjunction with the time schedule, the type of work each teacher is doing, the use of a building and room location. When compared with the standard capacities maintained in the central offices, it is possible for the superintendent to determine at a glance the condition of his school plant in relation to use and teacher distribution.

The value of this report is purely local, an excellent administrative aid when properly considered.

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[9] A sample of form 12a is printed in the appendix.

[10] A copy of form 11 may be found in the appendix. The printing specifications for form 11 follow: FORM 11—Monthly Housing or Class Report. SIZE: 12½″ wide by 10½″ high. STOCK: No. 1 Sulphite Bond, 16 lb., White. RULING: Machine (red, blue, and purple). COMPOSITION: as per diagram, rules on back. PUNCHING: ⅜″ round hole, 7″ c. to c.

Home Report. The question of the best form for a home report (form 25) is still unsettled in the minds of most teachers. The principle of the report as a means of maintaining and developing home contact and so rendering possible more effective instruction is generally accepted. Some prefer a card that gives rank order ratings; others fancy differentiated or group markings on a subject basis, and still others feel that general achievement and character markings are best.

The basic principle in the organization of such a report is that it shall be intelligible to the average parent. All of the above-mentioned methods possess to some extent both strength and weakness in this respect. It is possible that at present the average parent understands the "S" and "U" subject marking, and it is questionable whether such marking is not best for home reports. From the child-accounting standpoint, the importance lies in the *use* rather than the content of the form; its content may vary rightfully with local conditions. No recommendations are therefore made, except in respect to the importance of use. There should be provision for home contact in every public school system.

Contact Forms. Three forms are essential to maintain contacts with other schools and with the Local Child Accounting Department. Notice of entry [11] (form 15) should be sent to the Local Child Accounting Department the same day a child is received. This form may be printed upon the regulation postal card requiring a one-cent stamp.

Forms 13 and 14 are parts of a double postal or mailing card.[12] Both are notices of a child leaving school. One (form 14) is mailed to the school which the child is planning to enter, and the other (form 13) is mailed to the Local Child Accounting Department. They are attached so that both notices will be sent simultaneously.

[11]Form 15 is shown in the appendix. The printing specifications are:

FORM 15—Notice of Entry to Local Child Accounting Department. SIZE: 5½" wide by 3¼" high. STOCK: Government Post Card Bristol. COMPOSITION: Front as per diagram, back Local Child Accounting Department address.

[12]These forms are presented in the appendix. The printing specifications are:

FORM 14—Notice of Transfer to Another School. FORM 13—Notice of Transfer to Child Accounting Department. SIZE: 5½" wide by 3¼" high. STOCK: Government Post Card Bristol. COMPOSITION: Front as per diagram, back Local Child Accounting Department address.

Age-Grade-Survey. During the second week of October, an annual age-grade[13] survey (form 17) may be made in each district. The technique of making such a study is relatively simple. The chronological age of a child is reckoned as of September 1 each year, and the child, for administrative purposes, is assumed to be six years until his next birthday. An age table printed on the reverse of the form makes the calculation easy. After ascertaining the chronological age and the grade classification, the child is entered in the square where age and grade columns meet. The child shall be considered in grade at age during two years, i.e., five and six years for the first grade, etc.

Children to the right of the heavy line are one or two years retarded, depending upon their location, and three or more years retarded if in the stippled area. All children to the left of the black line of in-grade-at-age are accelerated one, two, or three years, depending upon the square in which they are located.

Teachers can make the age-grade report for their individual classes, and these results can be consolidated by the principal for the school and by the superintendent's office for the district.

The value of this survey is as a general index from which a start may be made in studying school conditions. Over a period of years, it may show the relative progress in the elimination of serious retardation, through better individual classification, and the increase in acceleration, provided that other contributing factors are known and considered. The number of variable factors involved in a mass study of this type tends, however, to make its use a very limited one.

For use in a large city district where machine tabulation is profitable, a different collection on form 21 is recommended.[14]

[13] A copy of this form appears in the appendix. Printing specifications for the age-grade report (form 17) follow:

FORM 17—Age-Grade Report. SIZE: 11 x 8½. STOCK: 20 lb. Sulphite No. 1 Bond, White. COMPOSITION: Wax plate, as per drawing, stippled area "Ben Dayed." Put up in pads of 25 padded at left.

[14] A sample of form 21 is shown in the appendix. Printing specifications of form 21 follow:

FORM 21—Age-Grade Class Sheet. SIZE: 11 x 17. STOCK: No. 1 Sulphite Bond, 16 lb. RULING: Machine (red and blue). COMPOSITION: as per diagram. PUNCHING: ⅜" slot hole, 7" c. to c. on 11" edge.

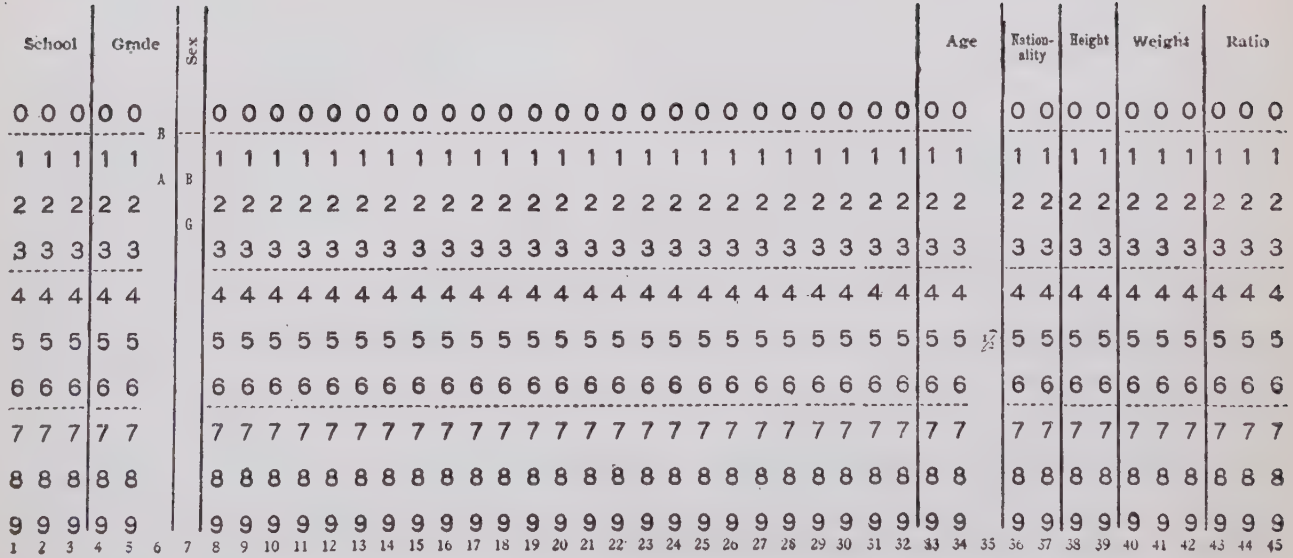

FIGURE 19—TABULATION CARD FOR AGE-GRADE AND HEIGHT-WEIGHT SURVEY

In this case, the teacher writes in the family name of the child, his age, country of birth of father, his height in inches, and weight in pounds. The result is a combination age-grade-nationality-height-weight survey which can be nicely correlated by use of the tabulating machine.

Age-Grade Progress. A more comprehensive study[15] in districts possessing at least six years of continuous individual records is that of age-grade-progress.[16] Such a study corrects the greatest weakness of the age-grade survey by furnishing a picture of individual progress through the grades and pointing out the method of attacking the problem. Its value has been discussed from a theoretical standpoint for a number of years, but comparatively little field work has been done, because the technique appeared too cumbersome and expensive to use for anything more than sampling studies. A method of securing such data has been evolved, which will place no greater burden upon the teacher than the taking of the age-grade report, and its use will probably become quite general in the near future.

Age-grade-progress reports may be consolidated into a series of tables from which valuable facts may be secured. The first table may include grade-progress information, giving in the vertical column the number of terms required to reach a half-grade, and in the horizontal column the classification by half-grades. A second table can show rapid and slow progress of pupils by grades, with grades on the horizontal and terms on the vertical axis.

Since the rate of individual progress in under-age, normal, and over-age groups varies, a third analysis might be the rate of progress within each of the three large groups, showing slow, normal, and rapid progress for each division. All of these data can be converted in percentage tables.

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[15]Excellent work in age-grade-progress surveys has been done by J. W. Studebaker, in Des Moines; Eugene A. Nifenecker, in New York; and P. T. Rankin, in Detroit.

[16]FORM 22—Age-Grade-Progress Report. SIZE: 8½″x11″. STOCK: No. 1 Sulphur Bond 16 lb. White. COMPOSITION: as per drawing. Put up in pads of 50.

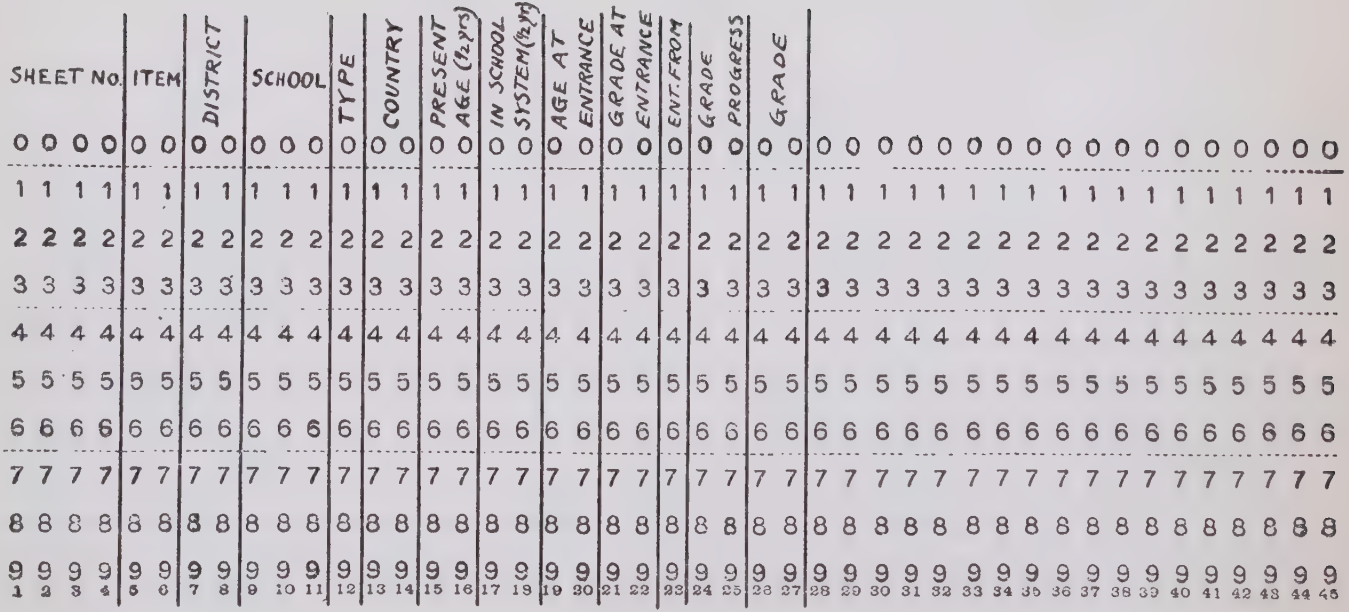

FIGURE 20—HOLLENITH CARD FOR TABULATION OF AGE-GRADE-PROGRESS SURVEY

Certain further analytical tables are desirable, of which two will be considered here. The first of these is the analysis of age-grade progress by the several nationalities, and the second the relation of age-grade progress to grade at entrance, from which may be derived the significance of early and late entrance.[17]

As a beginning, it is desirable to make the study for all of the children in the sixth grade. This will accustom the teachers to the process, and will arouse enough interest to make it easier to try it the following year in the first eight grades. It is not desirable to attempt the intermediate and high schools until the cumulative record cards are fully effective.

Promotion and Failure. Promotion and failure study (form 19) may be made at the close of each semester.[18] In the case of elementary schools, it seems best, after several years of experimentation, to record the failures in four subjects common to most schools, viz., English, reading, mathematics, and science. The form is self-explanatory and is devised for school, district, and state use without change. A slight variation of form 19 has been made for use in intermediate and high schools. The classification in this case is the individual class, in order that the study may be made by subjects and courses. Principals in intermediate and high schools may consolidate these individual reports for their own buildings, but in general such work can be accomplished quicker and better in the central office.

[17]In the appendix are presented the collection blank, instructions, and conversion tables.

[18]Forms 19 and 19a are shown in the appendix. Printing specifications for forms 19 and 19a follow

FORM 19—Elementary School Failure Report. SIZE: 8½″ x 5½″. STOCK: No. 1 Sulphit Bond, 16 lb., Pink. COMPOSITION: as per drawing. Put up in pads of 50.

FORM 19a—Intermediate and High School Failure Report. SIZE: 8½″ x 5½″. STOCK No. 1 Sulphite Bond, 16 lb., Buff. COMPOSITION: as per drawing. Put up in pads of 50.

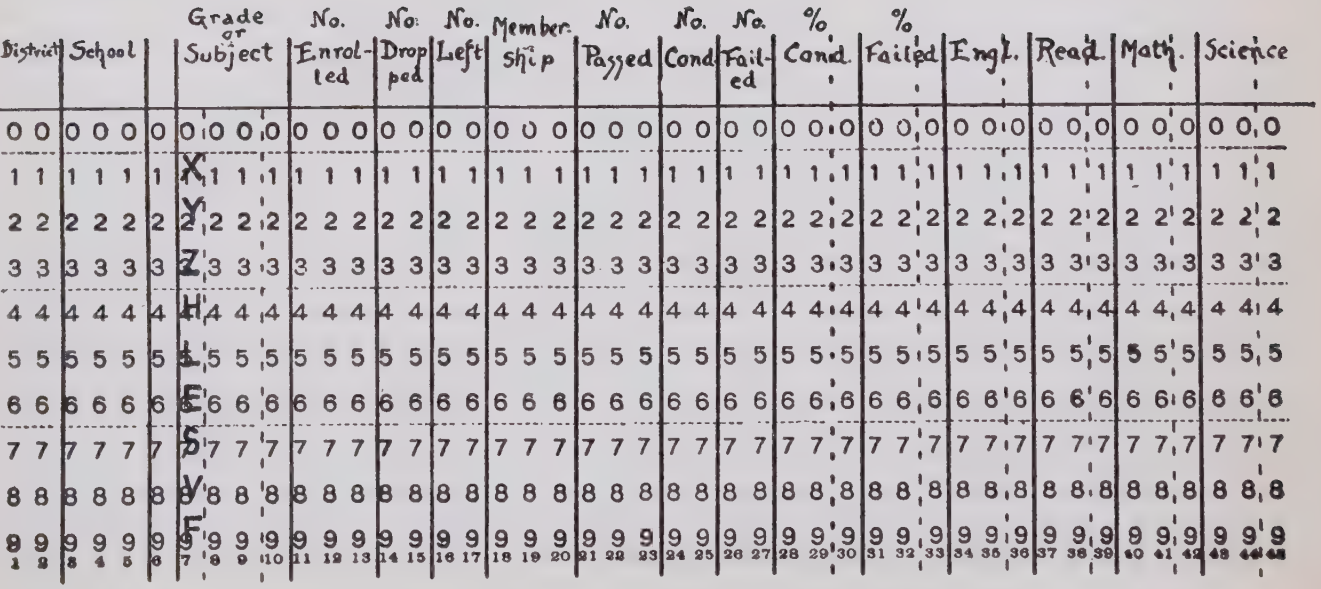

FIGURE 21—HOLLERITH CARD FOR TABULATION OF PROMOTION-FAILURE SURVEY

CHAPTER XII

ADMINISTRATIVE RECORDS (LOCAL)

THE superintendent's needs for records[1] may be divided into three groups, in respect both to subject matter and to time. These divisions are: (1) instructional, (2) child accounting, and (3) financial. Each of these groups may be again subdivided into monthly reports and those required at longer time intervals.

By instructional reports are meant those that deal specifically with the immediate or current progress of the child, in the required classroom tasks, and these will not be considered in this volume, except to point out that such reports might be made to advantage monthly upon the basis of grade-progress in the form of standard unit task accomplishments, or semi-annually, in terms of achievement tests. The third group, dealing with finance problems,[2] has no place in this discussion.

Child accounting reports may be considered in three divisions: (1) monthly, (2) semi-annually, and (3) annually. Under the monthly reports are: (a) child accounting, (b) teacher accounting, and (c) housing. Semi-annual reports include promotion and failure study, while annual reports cover: (a) health surveys, (b) nationality study, and (c) age-grade or age-grade-progress.

The monthly reports may be considered as the superintendent's educational balance sheet. The several divisions may be brought together in a single report in small systems and in three separate reports in larger organizations. They will be discussed here as separate reports.

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[1]See Chapter V.

[2]Covered fully in volume on *Public School Finance*, now in preparation.

Child Accounting The child accounting reports, using the term in its narrow sense, should include: (1) a statement giving the total number of children of school age; (2) the number in school, by type; and (3) the number not in school. Those not attending ought to be accounted for by reason, such as employment, non-attendance permits, institutional cases, and plain "lost" children who are not in school. It is only by a deliberate facing of the actual facts that corrective progress can be made.

This information may be illustrated graphically, and the diagram preferred is either the vertical or horizontal split bar. The first four pages would probably appear somewhat like the following:

Page 1

PART I—CHILD ACCOUNTING SUMMARY

The summary preceding the detailed information should include:

1. Statement of number of children in schools current month;

2. Comparison with the number in schools for the same month the year previous, giving difference in numbers and per cents;

3. Statement of number in schools the preceding month;

4. Statement of total number of children not in schools;

5. Comparison with the number not in schools for the same month the year previous, giving difference in numbers and per cents;

6. Statement of the number not in schools the preceding month;

7. Number on attendance permits current month, preceding month, and the same period previous year;

8. Number on non-attendance permits current month, preceding month, and the same period previous year.

Page 2

CHILD ACCOUNTING REPORT

For Month Ending March 28, 1923

The school census shows a total of 241,599 children of whom 11,730, who are of compulsory school age, are not in attendance. Of this number 10,442 have not been located by the attendance division. This situation compares favorably with the same time last year when 12,500 could not be located. The complete data appear in the following table:

TABLE I—RELATION OF SCHOOL CENSUS TO CHILDREN SERVED

Age Group	Census 1922	Membership in Public Schools	Membership in Non-public Schools	Total Served	Total Number Not in School	Per Cent Not Served
5	20,613	8,920	1,194	10,114	10,499	50.9
6	20,712	13,100	2,666	15,766	4,946	23.9
7	20,485	13,855	4,596	18,451	2,034	9.9
8	19,727	13,128	5,525	18,653	1,074	5.4
9	18,629	12,218	5,555	17,773	856	4.6
10	17,224	11,137	5,323	16,460	764	4.4
11	16,095	10,449	4,917	15,366	729	4.5
12	16,007	10,490	4,825	15,315	692	4.3
13	14,916	10,009	4,258	14,267	649	4.4
14	15,004	10,537	3,703	14,250	764	5.1
15	13,341	9,458	2,768	12,226	1,115	8.3
16	12,096	7,191	1,852	9,043	3,053	25.2
17	12,287	3,719	1,068	4,787	7,500	61.0
18	12,839	1,959	757	2,716	10,123	78.8
19	11,624	1,031	518	1,549	10,075	86.7
Total	241,599	137,201	49,525	186,726	54,873	22.7

Page 3

In Figure 22 the data in Table I are shown graphically. Each bar represents an age-group. The white area indicates the children in public schools; the cross hatch, children in non-public schools, and the black area those who are not in any school.

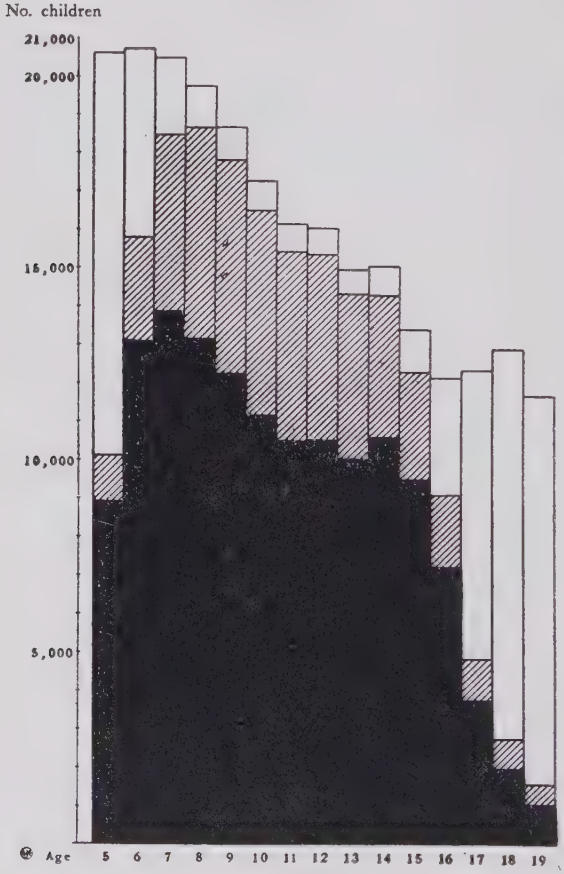

FIGURE 22—LOCATION OF CHILDREN OF SCHOOL AGE

Page 4

The non-attendance of children of compulsory school age is analyzed in Table II. The largest number of "lost" children are still in age-groups 7 and 8. At 12 and 13 years the number falls below 700.

TABLE II—ANALYSIS OF NON-ATTENDANCE

Age*	Age Group Not in School	Per Cent Age Group Not in School	Reasons for Non-Attendance		
			Not Located	Employment Permits	Non-Attendance Permits
7	2,034	9.9	2,000	.....	34
8	1,074	5.4	1,070	.....	4
9	856	4.6	850	.....	6
10	764	4.4	760	.....	4
11	729	4.5	720	.....	9
12	692	4.3	690	.....	2
13	649	4.4	649	.....	.....
14	764	5.1	750	.....	14
15	1,115	8.3	900	215	.....
16	3,053	25.2	2,053	1,000	.....
Total	11,730	7.1	10,442	1,215	73
Totals 1922	14,050	10.5	12,500	1,500	50

*Only children of compulsory school age are included in this table.

Public School Membership. The second division gives a detailed analysis of the public school membership. A general summary narrative includes the current membership and that of the previous month and year, together with a statement of the number of children on part time. Page two includes a comparison of membership with the estimated number provided for in the budget, furnishing a constant check upon the accuracy of prognostication. The second comparison is by grades and special activities, expressed in numbers and per cents. Following or preceding, depending upon individual preference, should appear a chart upon which the total monthly membership curve for a series of years is plotted. Such a growth chart is invaluable in determining quickly the trends. It may be carried in further detail and present growth by individual grades by years. The children by grades in each building may be next detailed. Sample pages of this report are presented.

Page 1

PART II—PUBLIC SCHOOL MEMBERSHIP

April 26, 1923

On April 26, 1923, there were in membership in the Westwood public schools 150,186 children.

This is an increase of 12,237 or 8.9% over April, 1922, and an increase of 617 over last month.

There are 9,960 children on half day sessions which is an increase of 4,311 over April, 1922.

	East Side	West Side	Total
April, 1922	3,518	2,131	5,649
April, 1923	6,270	3,690	9,960
Increase	2,752	1,559	4,311

Page 2

MONTHLY MEMBERSHIP REPORT OF THE PUBLIC SCHOOLS, APRIL 26, 1923

By Budget Division	April 1922	April 1923	Increase over April 1922	Per Cent Increase over April 1922	Estimated 1922-23 Membership for Budget Requests
Kindergarten	10,376	11,444	1,068	10.3	13,097
Elementary	93,576	103,307	9,731	10.4	98,309
Special	4,315	4,544	229	5.3	4,913
Intermediate	5,531	6,174	643	11.6	6,200
High	15,232	15,285	53	.3	15,575
Vocational	3,237	3,693	456	14.1	4,660
Continuation	3,603	3,592	—11	—.3	3,242
Junior College	1,208	1,142	—66	—5.5	1,500
Teachers College	691	812	121	17.5	800
College of Medicine	180	193	13	7.3	225
Total	137,949	150,186	12,237	8.9	148,521

Number Belonging by Grades	March 1923	April 1922	April 1923	Increase over April 1922	Per Cent Increase over April 1922
Kindergarten	10,395	10,376	11,444	1,068	10.3
1st	18,751	18,323	18,930	607	3.3
2nd	16,505	16,212	16,520	308	1.9
3rd	16,288	13,968	16,222	2,254	16.1
4th	14,493	12,470	14,444	1,974	15.8
5th	11,966	10,402	11,965	1,563	15.0
6th	10,586	9,903	10,602	699	7.1
Total Elementary	88,589	81,278	88,683	7,405	9.1
7th	10,069	9,127	9,966	839	9.2
8th	8,723	8,251	8,641	390	4.7
9th	9,327	8,391	9,091	700	8.3
Total Intermediate	28,119	25,769	27,698	1,929	7.5
10th	5,791	4,793	5,626	833	17.4
11th	3,502	2,853	3,373	520	18.2
12th	2,499	2,360	2,473	113	4.8
Total High	11,792	10,006	11,472	1,466	14.7
Post Graduates	101	124	92	—32	—25.8
Special and Ungraded	4,412	4,315	4,544	229	5.3
(a) Open Window	229	125	225	100	80.0
(a) Americanization	261	274	289	15	5.5
Special B Continuation	.....	248	.....	—248	.....
Continuation Classes	3,191	2,854	3,363	509	17.8
Vocational Soldiers	257	501	229	—272	—54.3
College Units	2,223	2,079	2,147	68	3.3
Totals	149,569	137,949	150,186	12,237	8.9

(a) Counted in Elementary Department in classification for Budget.

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MEMBERSHIP BY GRADES

School	Kdgn.	1st	2nd	3rd	4th	5th	6th	7th	8th	Spec.	Total
1	61	68	120	103	90	89	89	77	76	.....	773
2	.....	18	19	14	10	4	.....	.....	.....	.....	65
3	130	138	126	161	159	164	160	170	97	28	1,333
4	104	147	120	126	105	106	96	.....	.....	.....	804
5	83	97	95	93	97	87	66	63	67	46	794
6	50	67	55	71	53	57	45	59	59	12	528
7	126	154	227	244	178	185	202	157	108	183	1,764
8	112	131	145	151	129	86	91	80	.....	.....	925
9	90	143	136	106	100	.....	.....	.....	.....	22	597
10	64	182	135	107	94	102	99	86	24	.....	893
11	89	200	180	209	104	23	.....	.....	.....	21	826
12	46	88	92	91	86	79	70	57	31	25	665
13	164	182	171	155	149	128	162	189	172	83	1,555
14	95	139	108	135	109	94	99	.....	.....	.....	779
15	35	70	96	51	.....	.....	.....	.....	.....	68	320

SPECIAL CLASSES

School	Spec. A	Spec. B	Spec. Prep.	Spec. Adv.	Ungraded	Open Air	Americanization	Blind	Crippled	Deaf	No. Tchrs.
1	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
2	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	1
3	.....	.....	21	.....	24	60	.....	.....	.....	.....	4
4	22	.....	.....	.....	.....	.....	24	.....	.....	.....	2
5	.....	54	.....	.....	.....	.....	.....	.....	.....	.....	1
6	.....	.....	.....	.....	.....	.....	.....	12	.....	.....	1
7	41	53	50	.....	.....	.....	39	.....	.....	.....	7
8	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
9	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
10	25	58	.....	.....	.....	.....	.....	.....	.....	.....	4
11	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
12	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
13	42	.....	.....	.....	.....	.....	26	.....	.....	.....	3
14	22	.. ..	23	.....	.....	71	17	.....	.....	.....	5
15	.....	.....	51	.....	.....	50	.....	.....	.....	.....	4

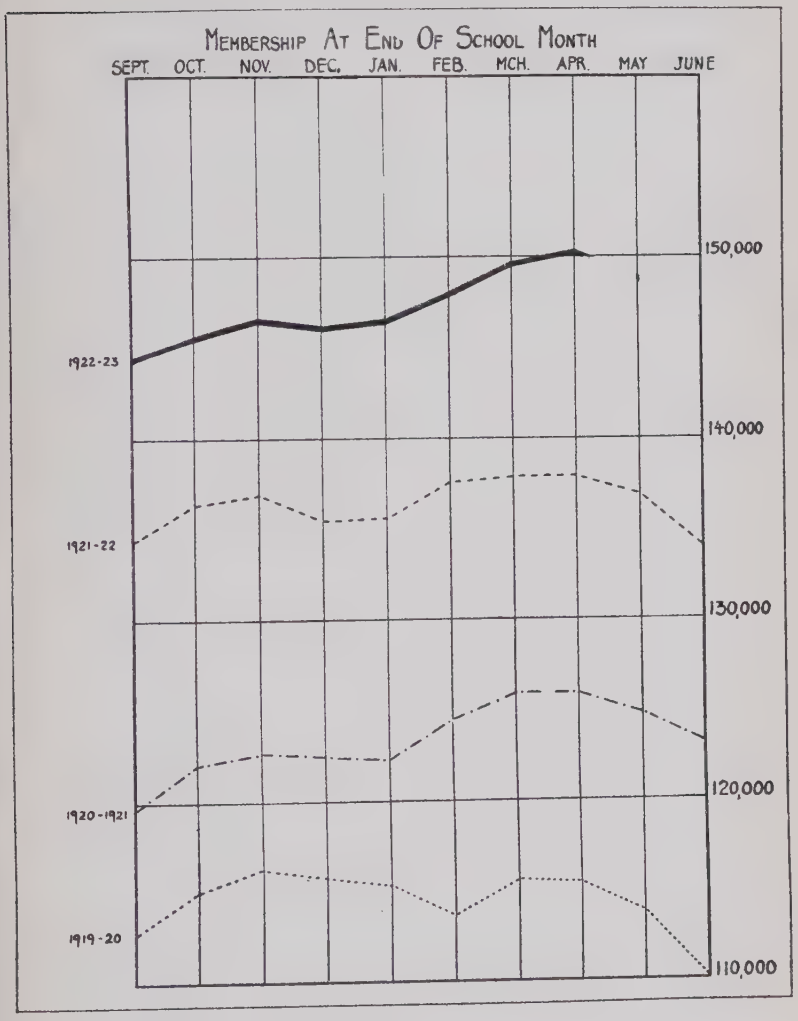


Figure 23—School Membership by Months and Years

Attendance. Part three deals with entries, withdrawals and with attendance, and includes registration, entries by transfer, and withdrawals. It notes the actual monthly per cent of attendance, as well as the average attendance for the semester. These data may be diagrammatically illustrated, similarly to the way membership was shown. Part three would be preceded by a summary statement, a comparative diagram of attendance by months and by years, and the detailed reports by grades. If desired, the complete attendance records for the individual schools can be shown, but for administrative purposes the city grade averages are a better index. Caution must be observed in the field use of attendance data. If attempts are made to apply some assumed standard, the chances are bright that the schools will attain such standards, but the result will be meaningless. It is far better practice to furnish principals with the monthly grade averages and allow them to draw their own conclusions. Since attendance is primarily a health problem, this feature of the case should be emphasized, and the actual attendance used as an index to develop interest in a scientific study of the problem.

On the following page is a sample of part three:

Page 1

PART III—ENTRIES, LOSSES, AND ATTENDANCE

1. A statement of total registration compared with the preceding month and year.

2. A statement of source of transfers in relation to the preceding month and year.

3. A statement of losses in relation to the preceding month and year.

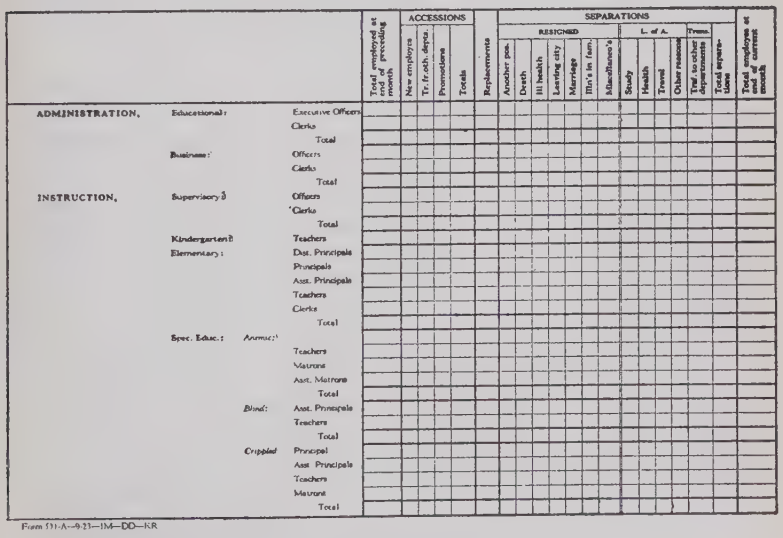
4. A statement of attendance in relation to the preceding month and year.

Teacher Accounting. The second administrative report is that of teacher accounting. In this section may be presented, monthly: (1) the number of teachers by schools; (2) the teaching

ENTRIES — WITHDRAWALS — ATTENDANCE — MONTH ENDING JANUARY 29, 1923

	Registration		Received by Transfer						Transfers													Average Membership for January	Average Attendance for January	Per Cent Attendance for Semester
	1A	1B	2A From Other Public Schools		2B From Other Rooms Within the Building		2C From Non-Public Schools		3A Other Rooms	3B Other Bldgs.	3C Non-Public Schools	3D Other Cities in Mich.	3E Other States and Countries	3F Reform School	3G Inst. for Defectives	3H Employment Permits	3I Marriage	3J Over Legal Age Limit	3K Deaths	3L Others			
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls																
Kindergarten	7513	7389	528	538	269	220	5	3	491	1148	111	189	202	2	2	.....	.....	3	13	654	13423	10752	80.1
1st	10280	9741	1295	1163	2058	1933	57	45	4125	2334	286	372	367	6	4	.....	.....	1	21	421	18715	16394	87.6
2nd	8864	8391	1196	1101	1222	1111	56	76	2554	2026	206	323	278	2	.....	1	.....	.....	17	131	16553	15129	91.4
3rd	8255	8011	1056	1036	1035	967	59	75	1828	1945	209	318	325	11	.....	2	.....	1	11	83	15696	14550	92.7
4th	7069	6895	895	821	748	597	71	63	1491	1640	172	233	244	9	4	3	1	4	8	82	13346	12345	92.5
5th	5876	5877	519	525	470	432	47	46	946	1134	121	228	179	9	1	6	1	7	3	49	11097	10320	93.0
6th	5114	5443	454	467	379	258	45	35	659	908	100	166	177	5	1	7	2	9	1	40	10167	9455	93.0
Total Elem.	45458	44358	5415	5113	5912	5298	335	340	11603	9987	1094	1640	1570	42	10	19	4	22	61	806	85574	78193	91.4
7th	4875	4852	503	478	283	257	23	21	621	696	91	111	162	12	1	33	3	28	2	69	9531	8816	92.5
8th	4349	4510	265	267	129	158	20	35	329	533	57	104	129	4	2	51	.....	28	2	103	8514	7944	93.3
9th	4581	4803	257	188	120	144	15	51	241	448	69	127	94	4	.....	175	8	175	2	163	8616	7961	92.4
Total Inter.	13805	14165	1025	933	532	559	58	107	1191	1677	217	342	385	20	3	259	11	231	6	335	26661	24721	92.7
10th	2746	2760	130	96	4	11	.....	11	13	201	29	54	43	4	.....	85	4	162	1	84	5076	4736	93.3
11th	1801	1719	27	23	.....	3	2	3	2	60	15	16	23	.....	.....	11	4	193	1	123	3192	3023	94.7
12th	1148	1186	14	2	.....	.....	1	1	.....	21	5	9	7	.....	.....	7	1	86	.....	15	2107	1991	94.5
Total High	5695	5665	171	121	4	14	3	15	15	282	49	79	73	4	.....	103	9	441	2	222	10375	9750	94.0
Spec. Adv.	16	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	36	35	96.2
Spec. A	834	383	194	87	110	56	7	2	28	199	48	28	12	.....	7	.....	.....	.....	1	12	1341	1210	90.2
Spec. B	597	416	369	143	136	9	9	3	118	223	30	28	18	13	2	17	.....	42	1	15	1171	1015	86.7
Spec. Prep	255	86	115	39	80	28	2	1	6	62	3	17	7	.....	.....	14	1	20	.....	4	469	422	90.1
Ung.	264	7	131	.....	69	3	1	.....	16	54	.....	3	6	6	1	17	.....	8	.....	8	358	318	88.7
Open Air	256	256	23	42	16	20	3	2	6	55	8	5	1	.....	.....	.....	.....	.....	.....	7	511	473	92.5
Open Window	65	62	5	4	86	95	.....	.....	93	16	.....	5	.....	.....	.....	.....	.....	.....	.....	2	226	202	89.5
Blind	58	55	12	8	4	3	1	.....	6	14	2	2	1	.....	.....	.....	.....	.....	.....	2	114	98	86.4
Deaf	94	83	5	.....	.....	.....	.....	.....	.....	4	.....	2	.....	.....	1	.....	.....	.....	.....	4	170	151	88.7
Crippled	134	106	20	10	13	3	1	2	16	4	.....	3	1	.....	.....	.....	.....	.....	.....	1	264	234	88.7
Americanization	150	121	34	32	21	21	1	2	28	19	2	.....	8	.....	.....	4	.....	15	.....	3	298	275	92.4
Total Special	2723	1596	908	365	535	238	25	12	317	650	93	93	55	19	11	52	1	85	2	58	4958	4433	89.5
Continuation	2743	2588	137	199	.....	2	3	56	1	292	9	113	96	29	4	7	36	1365	3	410	3333	2696	81.2
College of Med.	186	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	193	193	100.0
Junior College	871	363	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	156	1128	1103	97.8
Teachers College	26	827	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	62	791	784	99.1
Total College	1083	1197	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	218	2112	2080	98.5
Post Grad.	42	47	13	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	.....	1	90	85	94.9
Grand Total	79062	76975	8197	7270	7252	6331	429	534	13618	14036	1573	2456	2381	116	30	440	61	2169	87	2704	146526	132710	90.6

load; (3) the size of classes; (4) the salary distribution; (5) the teacher turnover; (6) teacher absence, and (7) teacher service. The number of teachers in each school can be determined easily each month from the payroll or the housing and class report The number of teachers, without consideration of organization, the amount of service per child, and the class distribution, mean little. In modern school organization, with its differentiated curricula, the average number of children per teacher, formerly considered a fair criterion, does not tell the true story. The average might be 25, yet the median size of a class 35. As soon as a school changes from the old single-teacher-class organization, the average tends to depart so far from both median and mode that its use is liable to result in unconscious misrepresentation of the actual situation. This is due to differentiation within instruction departments and to differences between the length of the student's and the teacher's day. For administrative purposes it is better practice to use the actual individual teaching load and the actual class distribution rather than attempt an index based upon the average.



Form 111-A—9-21—1M—DD—KR

FIGURE 24—FORM FOR TEACHER ACCOUNTING REPORT

The teaching load and class-size distribution can be quickly compiled from the weekly student hour reports[3] of the teachers. Since classes vary in size and in time taught, it is desirable to develop the teacher load in uniform units. The student hour, sixty minutes of instruction, is a uniform and simple base. It translates the load of the various teachers, from kindergarten through high school, into standard, comparable units.

Salary distribution, by type of school or schedule division, may be secured for the first month of the year, and then kept up to date each month by making only minor changes. It is quite important for the superintendent to be acquainted with the rate of change or turnover in the teaching force.[4] Such a report should carry promotions and other changes, presenting a complete monthly balance sheet of the teacher situation. The division of teachers' records can prepare it, or, in case there is no distinct division, the work may be done in the superintendent's immediate office. The division on teacher service by age and length of years may be made in September, and, like the salary distribution, kept up to date and made continuous by monthly corrections. Samples of the report on teacher accounting follow:

Page 1

TEACHER ACCOUNTING

I. Number of Teachers by Schools for Month Ending February, 1923

A—Elementary

School	Kdgn.	Academic	Music	Art	Manual Tr.	Household Arts	Aud.	Health Ed.	Library	Special Classes	Total
1	1.5[5]	14	1	1	1	1	2	2	.....	.5	24.
2	2	24	1	1	1	1	2	4	1	.....	37.
3	2	15.5	1	1	0.2	0.2	2	2	1	.....	24.9
4	2	15.5	1	1	0.4	0.4	2	2.4	1	1.0	26.7
5	2	15	1	1	0.2	0.2	2	.....	.....	.....	21.4
6	2	16	1	1	0.4	0.4	2	1.4	.....	1.0	26.2
7	2	16	1	.....	0.4	0.4	.....	1	.....	1.4	22.2
8	2	15	0.6	0.6	0.3	0.35	.....	.....	.....	.....	18.85
9	2	19	1	0.5	.....	0.2	.....	1	.....	1.2	24.9
10	1	12	0.6	0.2	0.2	0.4	.....	1	.....	4	19.4
11	1	12	0.6	0.2	0.15	0.35	.....	1	.....	.....	15.3
12	1	15	0.8	1.0	0.4	0.6	.....	1	.....	.....	19.8

B—Intermediate

Similar to Elementary Form

C—High School

Similar to Elementary Form

[3] See Chapter XI.

[4] In a small system, with practically no turnover, such report need not be made more than once a year.

[5] Fractional teachers may be accounted for in other departments or in other schools.

Page 2

II—TEACHER LOAD

A—Elementary Schools

The report may be exactly similar to the one for intermediate and high schools, or may be given as a grade split in the totals.

B—Intermediate Schools

Jones Intermediate School

December 8, 1922

Distribution	Weekly Student Hours	Per Cent of Distribution	Number of Students	Per Cent of Distribution	Number of Teachers	Student Hours per Teacher
Health	5,080	15.3	1,252	11.4	4.0	1,270
Auditorium	1,982	6.0	820	7.4	2.0	991
Languages	5,394	16.2	1,479	13.4	7.8	692
Exact Sciences	6,010	18.1	2,258	20.5	8.9	675
Social Sciences	5,503	16.6	1,230	11.2	7.0	786
Vocational	7,511	22.6	2,819	25.5	12.4	606
Fine Arts	1,737	5.2	1,164	10.6	2.0	869
Totals	33,217	100.0	11,022	100.0	44.1	753

C—High School

George High School

December 8, 1922

Distribution	Weekly Student Hours	Per Cent of Distribution	Number of Students	Per Cent of Distribution	Number of Teachers	Student Hours per Teacher
Athletics	536	1.6	102	1.0	.6	893
Health	3,017	9.0	1,745	16.5	3.6	838
Language	11,647	34.6	3,397	32.2	21.6	539
Exact Sciences	6,373	18.9	1,594	15.1	11.8	540
Social Sciences	4,713	14.0	1,441	13.7	8.9	530
Vocational	6,464	19.2	1,953	18.5	13.2	490
Fine Arts	910	2.7	313	3.0	2.7	337
Totals	33,660	100.0	10,545	100.0	62.4	539

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PART III—SIZE OF CLASSES

A—Elementary

Medians and Percentiles of Elementary Classes

Grades 1-8 by Districts

December, 1922

School District	25 Percentile		Median		75 Percentile	
	October 1921	September 1922	October 1921	September 1922	October 1921	September 1922
1	33.35	36.63	40.58	42.50	46.49	47.30
2	36.55	40.04	41.58	43.72	46.59	47.46
3	36.00	36.25	39.94	40.39	43.96	44.73
4	32.50	35.63	34.00	38.73	39.94	42.66
5	32.95	35.69	36.28	41.48	43.25	46.18
6	36.25	34.07	41.31	39.22	44.81	43.78
7	31.68	36.85	33.38	41.08	35.97	45.24
8	33.72	36.03	37.91	39.73	41.82	42.87
9	31.19	34.89	38.27	40.51	43.79	46.07
10	29.30	34.69	38.60	39.77	45.26	44.96
11	37.11	40.96	39.80	45.78	44.55	48.63
12	32.93	35.65	36.31	39.63	39.89	43.36
13	32.58	37.15	40.40	41.65	44.15	45.69
14	32.56	34.82	36.37	40.04	44.19	43.95
15	31.18	36.91	36.55	41.29	43.07	45.63
Total	32.97	36.18	37.79	40.90	43.52	45.19

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SUMMARY

Size of Classes by Districts, Grades 1-8

December, 1922

School Dist.	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
1	.....	.....	10	17	26	36	38	15	.....	.....	142
2	.....	.....	.....	16	32	66	64	14	1	1	194
3	.....	1	2	20	40	38	27	4	.....	.....	132
4	.....	.....	6	27	67	46	18	2	.....	.....	166
5	1	2	15	24	36	54	38	15	3	.....	188
6	1	1	14	43	51	57	33	4	.....	.....	204
7	.....	2	3	28	67	71	48	10	2	.....	231
8	.....	1	4	17	56	60	10	2	.....	.....	150
9	1	4	16	22	38	39	35	14	.....	1	170
10	.....	.....	7	28	33	32	24	7	2	.....	133
11	.....	1	3	5	15	26	51	14	1	.....	116
12	.....	.....	4	32	54	58	19	5	.....	.....	172
13	.....	1	5	12	32	41	31	5	.....	.....	127
14	.....	.....	9	36	42	56	28	3	1	.....	175
15	.....	.....	2	14	32	33	30	2	.....	.....	113
Total	3	13	100	341	621	713	494	116	10	2	2413

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SIZE OF CLASSES, ELEMENTARY SCHOOLS, GRADES 1-8

December, 1922

School	Size of Classes										Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	
District Principal X											
a			1			8	3	3			15
b				2	5	3	1				11
c			1	3	2	2	6	2			16
d					1	1	7	3			12
e				1	2	3	3	4			13
f			2	3	2	6	1	2			16
g			6	6	2	5	1				20
h					7	3	5				15
i					2	5	4	1			12
j				2	3		7				12
Total			10	17	26	36	38	15			142
District Principal Y											
k				7	6	5	3				21
l					5	14	14	1			34
m					3	7	6	1			17
n				2	5	4	7	1			19
o					1	17	11		1		30
p					5	5	7	4			21
q				1	2	2	3	3			11
r				3	1	4		1			9
s				1	2	5	5				13
t				2	2	3	8	3		1	19
Total				16	32	66	64	14	1	1	194

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Size of Classes—Special
December, 1922

School	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	Total
1				1							1
2				1							1
3		1		1							2
4			1	1							2
5			3								3
6	1										1
7			2	6	1						9
8				1							1
9				1							1
10			1								1
11			3	1							4
12			1								1
13			1								1
14		2	1								3
15			2		1	1					4
Total	1	3	15	13	2	1					35

Kindergarten—December, 1922

School	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	Total
1				2						2
2			1	3						4
3			2	2						4
4						1				1
5			3	1						4
6			4							4
7		2	2							4
8	1	1								2
9		1	3							4
10			4							4
11		1		1						2
12				2	2					4
13			2		1					3
14			4							4
15			2		1					3
Total	1	5	27	11	4	1				49

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B—Intermediate Schools

Median and Percentiles of Classes

December, 1922

Schools	25 Percentile			Median			75 Percentile		
	Nov. 1921	Sept. 1922	Dec. 8 1922	Nov. 1921	Sept. 1922	Dec. 8 1922	Nov. 1921	Sept. 1922	Dec. 8 1922
A	.....	21	18	.....	29	28	.....	34	35
B	26	29	27	32	34	35	38	38	38
C	.....	24	25	.....	33	33	.....	37	38
D	24	24	24	33	33	31	40	42	40
E	21	20	22	27	27	28	34	33	35
Total	24	24	23	31	31	31	38	37	37

Summary of Size of Intermediate School Classes

December, 1922

Schools	Total No. Classes	1–9	10–14	15–19	20–24	25–29	30–34	35–39	40 and over
A	601	25	28	144	60	69	116	120	39
B	384	.....	1	21	27	68	77	137	53
C	425	10	14	40	39	54	96	122	50
D	243	.....	6	27	39	44	27	36	64
E	278	4	19	32	41	65	51	30	36
Total	1,931	39	68	264	206	300	367	445	242
Per Cent	100	2.0	3.5	13.7	10.7	15.5	19.0	23.0	12.6

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SIZE OF CLASSES

Intermediate School A

December, 1922

Department	Total No. Classes	1-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and over	Total No. Pupils	Per Cent of Total School Membership
Health.....	43	....	....	1	6	8	9	8	11	1,727	105.6
Athletics...	1	....	....	....	....	....	1	....	....	30	1.8
Auditorium	30	....	....	5	10	5	....	10	....	803	49.1
Languages											
English..	66	....	2	1	6	2	24	27	4	2,191	133.9
Foreign..	20	....	....	5	2	6	6	....	....	526	32.2
Exact Sciences											
Mathematics	47	3	6	29	3	1	3	2	....	855	52.3
Science....	51	3	6	30	4	1	2	5	....	973	59.5
Social Science ..	54	....	....	1	1	9	18	23	2	1,788	109.3
Vocational											
Shop.....	118	1	8	52	14	17	8	16	2	2,685	164.1
Home Ec.	47	....	2	13	10	1	6	6	9	1,424	87.0
Com'cial	17	....	....	1	1	7	7	1	....	496	30.3
Fine Arts											
Art.....	45	1	2	1	2	6	19	14	....	1,407	86.0
Music...	49	10	1	2	....	5	13	7	11	1,602	97.9
Coaching...	13	7	1	3	1	1	....	....	....	163	9.9
Total.....	601	25	28	144	60	69	116	120	39	16,670	
Per Cent...	100	4.2	4.7	23.9	10.0	11.5	19.3	19.9	6.5	.....	.....

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C—High Schools

Median and Percentile of Classes

December, 1922

School	25 Percentile		Median		75 Percentile	
	March 1922	September 1922	March 1922	September 1922	March 1922	September 1922
1	21	18	25	25	29	29
2	21	22	27	27	31	32
3	24	23	30	30	34	34
4	26	25	31	31	35	36
5	24	25	29	31	33	36
6	25	27	30	31	34	35
7	25	21	30	28	34	34
8	26	28	30	34	35	39
9	23	23	29	28	33	33
10	29	33	33	38	40	42
Total	23	23	29	29	33	34

Summary of Size of High School Classes

December, 1922

School	Total Number Classes	1-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and Over
1	575	40	61	68	125	181	68	9	23
2	340	12	18	30	63	97	86	18	16
3	363	22	26	23	37	69	114	53	19
4	315	6	9	24	42	51	90	69	24
5	390	1	7	26	55	90	95	61	55
6	543	7	13	35	42	121	202	68	55
7	335	11	22	36	51	74	81	34	26
8	208	1	1	8	21	36	51	45	45
9	224	.....	8	24	38	71	44	29	10
10	175	.....	1	.....	4	18	31	55	66
Total	3,468	100	166	274	478	808	862	441	339
Per cent	100	2.9	4.8	7.9	13.7	23.4	24.8	12.7	9.8

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SIZE OF CLASSES

NUMBER FOUR HIGH SCHOOL

December, 1922

Department	Total No. Classes	1-9	10-14	15-19	20-24	25-29	30-34	35-39	40 and over	Total No. Pupils	Per cent of Total School Membership
Athletics...	4	....	....	1	1	....	2	....	....	96	3.8
Health.....	25	....	....	1	1	8	1	....	14	1269	50.2
Languages											
English..	75	....	....	2	5	23	30	8	7	2304	91.1
Foreign..	66	....	1	4	4	12	17	20	8	2084	82.4
Exact Science											
Math'm'tics	64	....	....	2	6	12	18	22	4	2029	80.2
Science....	21	....	1	2	8	8	2	....	....	502	19.8
Social Sci...	42	....	....	....	2	2	9	10	19	1575	62.3
Vocational											
Shop....	15	....	1	4	9	1	....	....	....	306	12.1
Home Ec.	28	1	2	6	9	10	....	....	....	604	23.9
Com'cial	40	....	1	2	9	12	16	....	....	1070	42.3
Fine Arts											
Art.....	.....	....	....	....	....	....	....	....	....	.....	.....
Music.....	10	....	1	2	1	2	....	1	3	299	11.8
Totals.....	390	1	7	26	55	90	95	61	55	12138	
Per cent...	100	.3	1.8	6.7	14.1	23.1	24.4	15.6	14.1		

(Details of each building would be carried in a similar manner.)

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PART IV—SALARY DISTRIBUTION

TEACHERS

Salary	Kindergarten	Elementary	Intermediate	High School
3400-3449				1
3350-3399				
3300-3349			4	47
3250-3299				
3200-3249			3	
3150-3199				
3100-3149				1
3050-3099				
3000-3049			1	30
2950-2999				
2900-2949				1
2850-2899				
2800-2849			1	77
2750-2799				
2700-2749			1	
2600-2649		15	76	235
2550-2599		1	3	20
2500-2549		4	29	42
2450-2499		1	3	9
2400-2449		21	17	43
2350-2399			1	7
2300-2349		129	19	24
2250-2299		1	4	16
2200-2249		57	12	35
2150-2199			1	2
2100-2149		31	17	35
2050-2099				1
2000-2049	58	707	6	12
1950-1999				1
1900-1949	59	441	20	31
1850-1899				
1800-1849	21	211	2	
1750-1799				
1700-1749	40	531	16	9
1650-1699				
1600-1649	15	384	4	5
1550-1599				
1500-1549	12	345		
1450-1499				
1400-1449	8	188		
Total	213	3,067	240	684
25 Percentile	1,723	1,630	2,135	2,350
Median	1,909	1,820	2,467	2,611
75 Percentile	2,004	2,014	2,617	2,647

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SALARY DISTRIBUTION

PRINCIPALS

Salary	Elem.	Inter. Ass't.	Inter-mediate	Ass't. Grade Prin.	High School
6500					
5500-5549					9
5000-5049			2		
4900-4949			1	1	
4750-4799			1		
4650-4699					
4600-4649	16		1		
4500-4549	5				1
4100-4149	1				
4050-4099					
4000-4049	27			1	
3950-3999					
3900-3949				5	
3850-3899					
3800-3849					
3750-3799					
3700-3749		2			
3650-3699					
3600-3649	34				
3550-3599					
3500-3549					
3450-3499					
3400-3449					
3350-3399					
3300-3349				35	
3250-3299					
3200-3249	23			3	
3150-3199				1	
3100-3149		1			
3050-3099					
3000-3049					
2950-2999				1	
2900-2949					
2850-2899					
2800-2849	8				
2750-2799					
2700-2749					
2600-2649					
2550-2599					
2500-2549					
2450-2499					
2400-2449	12				
Total	126	3	5	47	10
25 Percentile	3,225	3,137	4,762	3,310	5,508
Median	3,629	3,712	4,925	3,326	5,522
75 Percentile	4,032	3,731	5,019	3,343	5,536

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PART V—TEACHER TURNOVER

The teacher turnover dropped to 4.7 per cent for 1921-22, which is one-tenth of one per cent lower than during the year preceding. The resignations of men teachers reflect industrial conditions. These resignations amounted to only 2.8 per cent, the lowest since 1914-15.

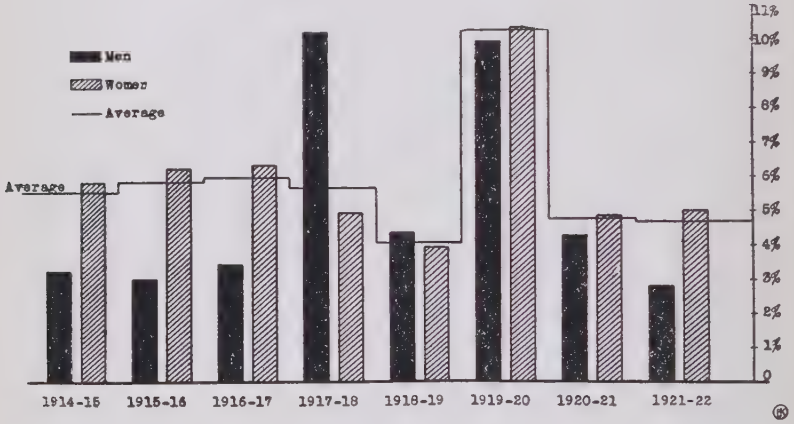

FIGURE 25—TEACHER TURNOVER

RESIGNATION OF TEACHERS BY YEARS

Year	Resignations			Total No. of Teachers			Per cent of resignations		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1914-15	8	111	119	239	1,896	2,135	3.3	5.9	5.6
1915-16	9	133	142	293	2,103	2,396	3.1	6.3	5.9
1916-17	12	148	160	338	2,312	2,650	3.5	6.4	6.0
1917-18	36	135	171	347	2,671	3,018	10.3	5.0	5.7
1918-19	19	125	144	433	3,130	3,563	4.4	4.0	4.1
1919-20	50	338	388	498	3,252	3,750	10.0	10.4	10.3
1920-21	23	174	197	540	3,543	4,083	4.3	4.9	4.8
1921-22	18	193	211	649	3,869	4,518	2.8	5.0	4.7

TEACHERS' SERVICE IN A CITY BY AGE AND LENGTH OF SERVICE UP TO JUNE 1, 1919

Age	SERVICE IN YEARS																									Total
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
18	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
19	1	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
20	5	48	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
21	1	73	32	7	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	114
22	4	54	71	23	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	158
23	2	71	44	34	23	2	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	179
24	4	64	32	33	45	22	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	204
25	8	64	38	22	42	22	15	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	219
26	3	52	40	21	15	13	24	11	5	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	185
27	4	63	38	28	14	14	19	17	16	9	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	223
28	2	46	30	29	20	17	11	12	17	16	5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	206
29	4	44	25	28	20	18	16	14	11	15	8	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	206
30	2	29	25	18	21	17	15	10	6	8	13	7	2	1	2	...	...	...	...	...	...	...	...	...	...	...	176
31	3	28	25	21	20	19	17	8	5	7	5	10	4	2	1	...	...	...	...	...	...	...	...	...	...	...	175
32	2	23	14	14	19	15	12	10	6	8	8	11	13	5	2	...	2	...	...	...	...	...	...	...	...	...	164
33	2	22	17	14	15	15	10	6	2	5	8	2	10	12	7	3	...	2	...	...	...	...	...	...	...	...	152
34	2	25	8	6	3	10	7	7	2	1	...	2	5	5	4	2	3	2	...	...	...	...	...	...	...	...	94
35	...	18	11	8	15	8	5	5	5	7	6	9	3	7	4	7	6	5	1	...	...	...	...	...	...	...	130
36	1	16	17	6	10	11	11	3	5	6	4	4	2	4	6	13	6	9	4	1	...	...	...	...	...	...	139
37	1	11	4	8	9	8	7	4	1	1	3	3	2	3	3	4	6	7	5	2	...	...	...	...	...	...	92
38	...	14	9	10	7	9	3	6	2	2	3	1	1	...	6	5	2	4	4	2	3	2	...	...	...	...	95
39	...	5	9	4	2	5	5	3	3	2	2	6	4	...	3	4	5	3	7	4	2	...	...	...	...	...	78
40	1	15	3	2	4	5	7	6	4	...	2	3	2	2	5	2	5	1	4	1	5	1	1	...	...	...	81
41	...	3	5	4	5	6	5	7	...	1	5	4	4	2	3	...	1	1	1	3	4	5	3	...	1	2	75
42	...	4	4	3	4	4	2	6	...	2	4	1	4	4	8	2	4	4	1	2	7	2	1	3	1	1	78
43	...	4	5	5	5	1	1	4	1	...	3	2	1	2	7	...	3	1	2	3	3	6	4	3	1	1	68
44	1	4	2	5	6	5	4	...	4	3	2	...	1	2	1	3	1	1	2	...	3	3	2	2	5	1	64
45	...	2	1	3	3	...	...	9	1	1	2	2	2	4	4	5	...	...	...	...	3	2	2	5	1	2	54
46	...	3	2	2	...	1	...	1	2	3	5	...	1	1	4	2	2	1	1	1	...	4	2	...	1	5	44
47	...	...	3	4	1	2	...	2	3	1	...	...	1	...	4	1	1	...	...	...	2	1	...	4	7	3	40
48	...	1	3	1	...	2	2	1	5	...	...	...	1	2	2	1	...	...	1	...	3	1	...	1	2	...	29
49	...	...	1	2	2	...	...	3	...	...	...	3	1	1	...	...	...	2	1	...	2	1	1	...	...	1	21
50	...	1	2	...	1	2	1	1	...	1	...	...	1	...	...	2	...	1	1	2	...	...	1	1	...	...	19
51	...	1	...	3	...	...	...	1	1	2	...	1	...	...	1	1	...	2	3	3	2	2	2	1	2	2	30
52	...	1	1	1	1	...	...	1	1	...	...	1	...	1	1	4	...	1	2	2	3	...	3	...	...	2	26
53	...	...	...	...	1	...	...	1	...	...	2	...	...	1	...	...	1	3	...	...	...	...	...	1	1	...	11
Totals	53	835	532	369	340	253	204	169	108	101	92	75	65	62	79	61	48	50	40	26	42	30	22	22	22	20	3720

Housing Reports. The facts required by the superintendent in respect to housing conditions include: (1) the number of children on part time; (2) the temporary buildings; (3) basement rooms; (4) buildings over 50 years old[5] and inadequate for modern education; and (5) crowded classrooms. The latter depends upon the local educational policy. If 40 is considered the standard size, then groups with more than 45 in membership can be considered crowded. The first page of this report may include a statistical summary of housing conditions, together with a narrative bringing out the salient points.

Page 1

Housing Conditions. An analysis of elementary housing conditions in December, 1921, showed 45,574 or 45% of the total number of children to be inadequately cared for. A similar survey of June, 1922, showed this number reduced by 7,515 to 40,059, or 8% below December conditions. The greater portion of this decrease, 6,310, was secured by relief of half day sessions and crowded rooms made possible by completion of new buildings and additions.

TABLE I

A—Housing Conditions of Elementary Pupils

	December 1921	June 1922	Decrease
Rented quarters	959	1,056	—97
Temporary buildings	3,322	2,397	925
Basement rooms	3,568	3,458	110
Buildings over 50 years old	4,005	3,788	217
Total	11,954	10,699	1,155
Half-day sessions	7,053	5,162	1,891
Crowded rooms (45 or more)	28,667	24,198	4,419
Grand total inadequately housed	47,574	40,059	7,515
Total elementary membership	107,173	107,876	703
Per cent inadequately housed	45	37	8

[5]Fifty years is used to indicate a standard. Each city would establish its own standard in respect to building age.

B—Housing of Intermediate Pupils

(Explanatory narrative should precede tables)

	December 1921	June 1922	Decrease
Rented quarters	100	.....	100
Temporary buildings	.....	.....	.....
Basement rooms	.....	.....	.....
Buildings over 50 years old	.....	.....	.....
Part time sessions	.....	.....	.....
Crowded academic classes (40 or more)	.....	.....	.....
Total inadequately housed	100	.....	100
Total intermediate membership	7,000	8,500	—1,500
Per cent inadequately housed	1.4	0	1.4

C—Housing of High School Pupils

(A similar table may be prepared for high schools)

The general summary is followed by a detailed table showing, by schools, the relationship between capacity and membership. It tells at a glance whether a building is over load or under load and where the crowding exists. When these data are spotted on the district map, as in Figure 26, the entire housing situation is revealed at a glance.

TABLE II

Capacity and Membership by Schools

A—Elementary

School	Kdg.	Membership				Total Capacity	Kdg. Capacity	Capacity above Kdg.
		Total Elem.	Total Inter.	Special	Total Schools			
1	103	696	.....	22	821	760	120	640
2	133	888	238	.....	1,259	1,200	120	1,080
3	31	63	.....	.....	94	260	60	200
4	103	623	.....	105	831	580	60	520
5	85	482	106	54	727	680	120	560
6	105	564	.....	.....	669	500	60	440
7	66	708	132	.....	906	920	120	800
8	111	784	.....	20	915	745	120	625
9	45	466	.....	21	532	565	60	505
10	117	1,132	236	133	1,618	1,210	120	1,090
11	114	1,133	.....	.....	1,247	1,200	120	1,080
12	72	631	.....	85	788	650	120	530

Sections B and C of Table II present the same information for the intermediate and high schools. A third table shows in detail part time sessions by grades and schools.

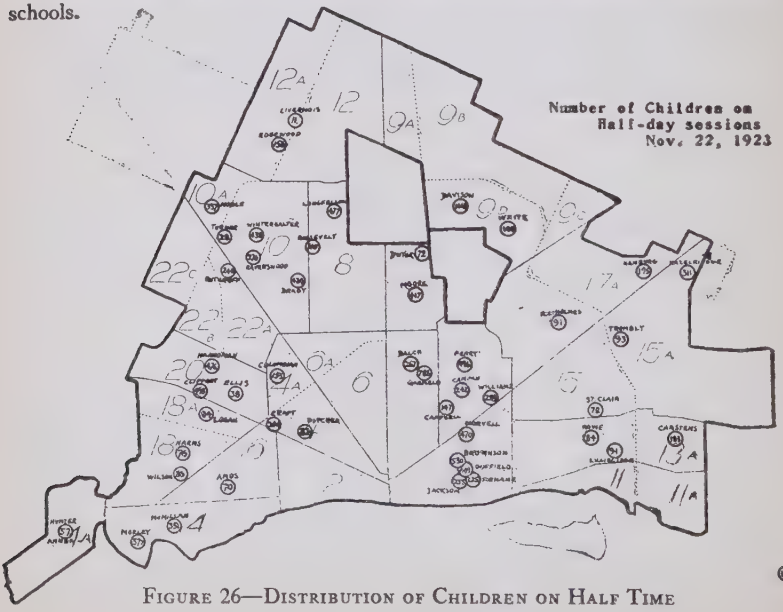

Figure 26—Distribution of Children on Half Time

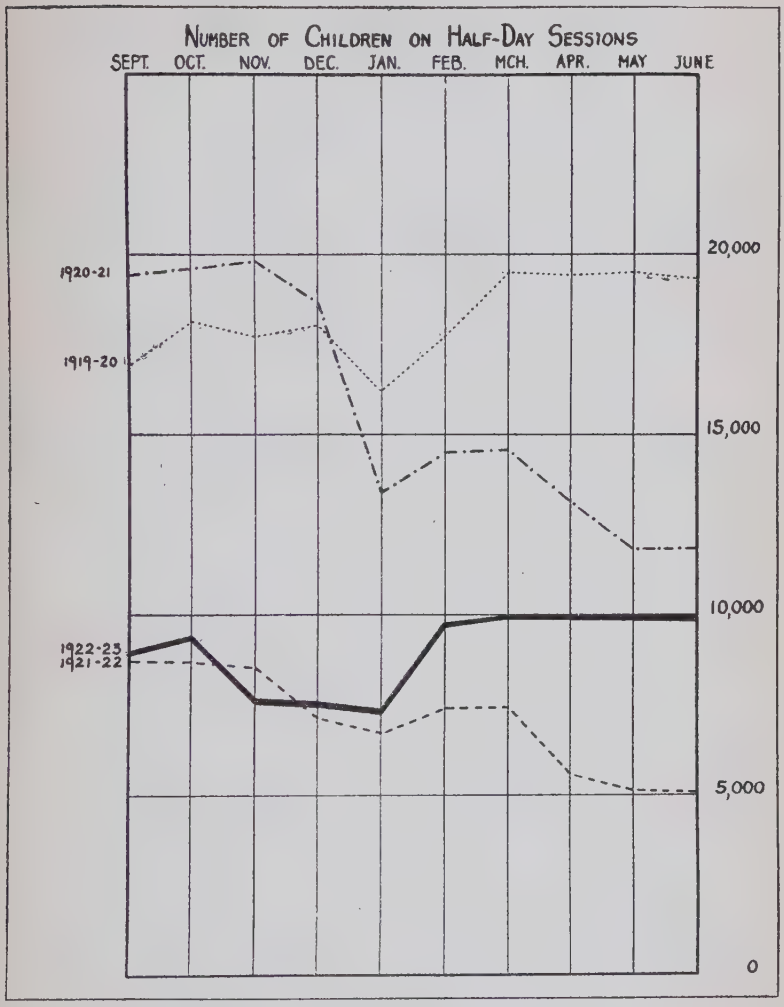

FIGURE 27—CHILDREN ON HALF TIME BY MONTHS AND YEARS

TABLE III

Half Day Sessions by Grades

April 26, 1923

Schools	Grades				Total	No. Sessions
	1st	2nd	3rd	4th		
1	138	24	.....	.....	162	4
2	147	23	.....	.....	170	4
3	143	136	106	49	434	10
4	182	.....	.....	.....	182	4
5	74	.....	.....	.....	74	2
6	65	.....	.....	.....	65	2
7	726	552	161	.....	1,439	36
8	136	166	90	.....	392	10
9	169	164	91	.....	424	10
10	77	116	38	.....	231	6
11	242	266	44	.....	552	14
12	80	.....	.....	.....	80	2
13	83	.....	.....	.....	83	2
14	80	.....	.....	.....	80	2
15	212	157	161	47	577	14
16	115	101	.....	.....	216	6
17	70	.....	.....	.....	70	2
18	152	14	.....	.....	166	4
19	82	.....	.....	.....	82	2
20	41	42	.....	.....	83	2
21	144	.....	.....	.....	144	4
22	126	134	.....	.....	260	6
23	85	.....	.....	.....	85	2
24	127	92	.....	.....	219	5
Totals....	3,496	1,987	691	96	6,270	155

These data can be illustrated by two diagrams, one showing the relationship of part time sessions by months to similar periods in previous years and another showing the exact location of part time classes, together with the number of such classes. See Figure 27.

Semi-Annual Reports. Promotion and failure studies comprise the semi-annual reports. The desirable points with which the superintendent should be familiar are the amount of failure by subject, its percentile distribution, and the totals for the city. Failures by schools can be carried in a detailed table. On the following pages are shown sample pages of such a report.

PROMOTION AND FAILURE REPORT

Promotion and failure data for all Zion schools, June 1921, are given in the following pages. The general percentage of failure in the elementary schools was 6.70, in the intermediate schools 5.48, and in the high schools 10.64%. Figure 28 (Table 1) shows the medians and percentiles by grades in the elementary schools The greatest number of failures occurs in 1B, 4B, 5B, 6B, 7B, and 8B.

TABLE I—PER CENT OF FAILURE IN ELEMENTARY SCHOOLS, JUNE, 1921. ALL SUBJECTS COMBINED

	25%	Median	75%		25%	Median	75%
B1	4.80	9.65	17.23	B5	3.21	7.65	14.66
A1	2.63	5.33	9.90	A5	2.50	5.71	10.39
B2	2.70	6.21	11.08	B6	2.32	7.18	12.73
A2	1.74	4.58	8.43	A6	2.15	5.58	11.43
B3	2.82	6.00	10.41	B7	3.50	6.87	14.10
A3	2.24	5.76	11.37	A7	2.24	5.39	11.06
B4	3.20	7.14	12.69	B8	0.92	6.33	12.50
A4	2.65	5.86	11.00	A8	0.41	0.81	3.07

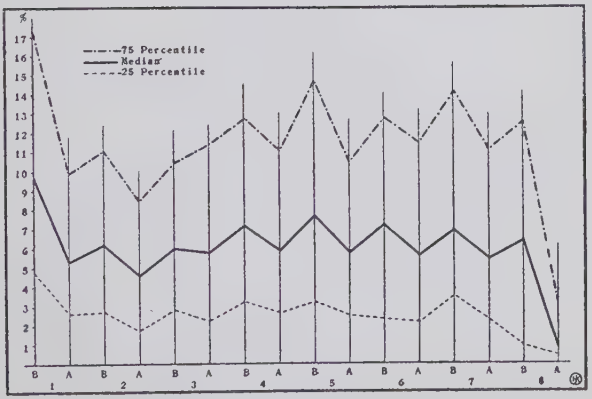

FIGURE 28—FAILURES BY GRADES

Figure 29 (Table 2) gives the median per cent of failure by grade for the four major subjects, mathematics, sciences, English, and reading in the elementary grades.

Failures in mathematics are generally greater than in the other subjects. Science is second and English third. Reading shows a decreasing curve after 2B.

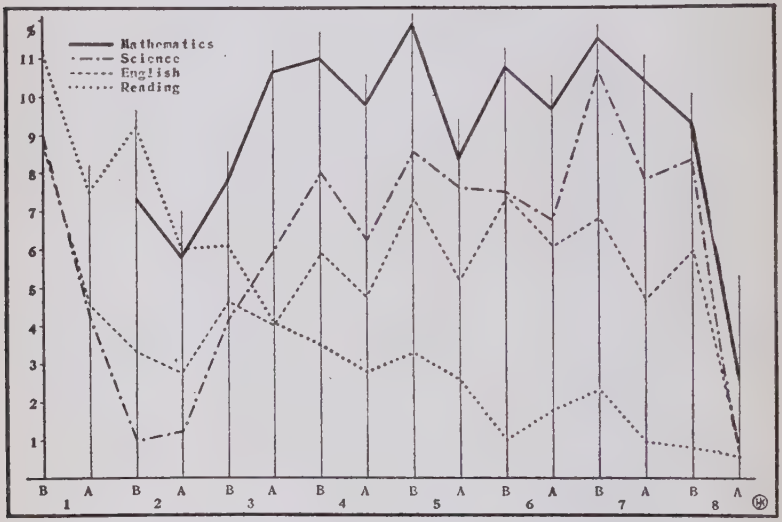

FIGURE 29—ELEMENTARY FAILURES BY SUBJECT AND GRADE

TABLE 2—MEDIAN PER CENT OF FAILURE BY GRADE AND SUBJECT IN ELEMENTARY SCHOOLS, JUNE, 1921

Grade	English	Reading	Mathematics	Science
B1	8.75	11.10	.....	9.00
A1	4.54	7.50	.....	4.25
B2	3.35	9.20	7.35	1.00
A2	2.78	6.00	5.80	1.25
B3	4.63	6.08	7.78	4.21
A3	4.05	4.08	10.64	6.00
B4	5.90	3.50	11.00	8.00
A4	4.75	2.80	9.80	6.24
B5	7.30	3.30	11.88	8.55
A5	5.18	2.58	8.37	7.62
B6	7.34	1.00	10.75	7.50
A6	6.06	1.80	9.66	6.75
B7	6.80	2.33	11.50	10.63
A7	4.66	0.95	10.37	7.80
B8	5.93	0.80	9.25	8.30
A8	0.92	0.60	2.66	0.65

INTERMEDIATE AND HIGH SCHOOL FAILURES

Figure 30 (Table 3) gives the percentage of failures by course of study in the intermediate and high schools.

The greatest number of failures and conditions occurs in the Exact Sciences. The high school percentage is 17.2 and the intermediate, 10.3. The smallest amount is in the Fine Arts, running to 4.8% for the high schools and 3.3% for the intermediate schools.

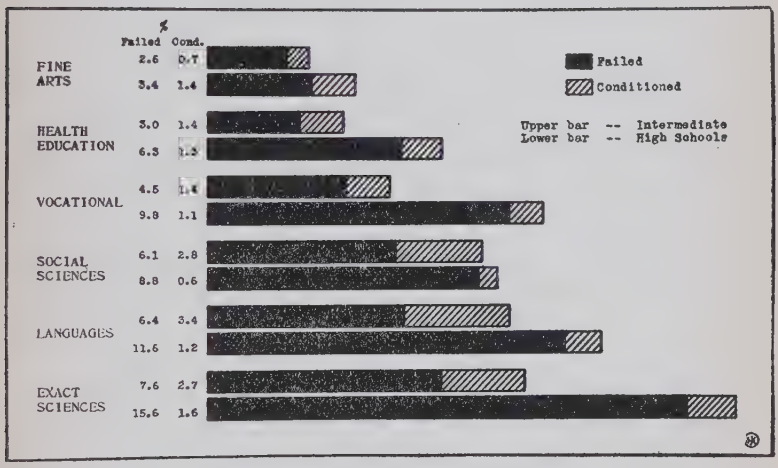

FIGURE. 30—FAILURES BY SUBJECT

TABLE 3—FAILURES IN INTERMEDIATE AND HIGH SCHOOLS BY COURSE OF STUDY

HEALTH

High	No. enrolled	No. dropped	No. left	No. remaining	No. passed	No. conditioned	No. failed	% passed	% conditioned	% failed
1	814	327	14	473	411	29	33	86.9	6.1	7.0
2	1457	92	104	1261	1126	83	52	89.3	6.6	4.1
3	1083	37	24	1022	968	0	54	94.7	.0	5.3
4	1191	88	94	1009	909	2	98	90.1	.2	9.7
5	964	51	38	875	795	0	80	90.9	.0	9.1
6	1709	145	112	1452	1373	1	78	94.6	.1	5.3
7	1498	74	74	1350	1237	5	108	91.6	.4	8.0
8	801	12	27	762	739	0	23	97.0	.0	3.0
9	634	23	46	565	538	0	27	95.2	.0	4.8
10	326	31	34	261	247	0	14	94.7	.0	5.3
Total	10477	880	567	9030	8343	120	567	92.4	1.3	6.3
Intermediate										
a	933	0	77	856	813	0	43	95.0	.0	5.0
b	901	5	41	855	798	28	29	93.3	3.3	3.4
c	632	1	42	589	588	1	0	99.9	.1	.0
d	802	38	65	699	668	12	19	95.6	1.7	6.3
Total	3268	44	225	2999	2867	41	91	95.6	1.4	3.0
Grand Total	13745	924	792	12029	11210	161	658	93.2	1.3	5.5

LANGUAGES

High	No. enrolled	No. dropped	No. left	No. remaining	No. passed	No. conditioned	No. failed	% passed	% conditioned	% failed
1	2041	136	231	1674	1366	44	264	81.6	2.6	15.8
2	3488	109	183	3196	2917	60	219	91.3	1.9	6.8
3	3567	90	151	3326	2911	51	364	87.5	1.5	11.0
4	2845	30	241	2574	2114	38	422	82.1	1.5	16.4
5	4061	109	207	3745	3174	21	550	84.8	.6	14.6
6	1709	145	112	1452	1373	1	78	94.6	.1	5.3
7	2497	26	164	2307	2063	12	232	89.4	.5	10.1
8	1565	27	86	1452	1319	34	99	90.9	2.3	6.8
9	1992	29	134	1829	1622	0	207	88.7	.0	11.3
10	1061	14	137	910	726	17	167	79.8	1.9	18.3
Total	24826	715	1646	22465	19585	278	2602	87.2	1.2	11.6
Intermediate										
a	1218	13	85	1120	1007	0	113	89.9	.0	10.1
b	1561	24	105	1432	1262	77	93	88.1	5.4	6.5
c	921	11	74	836	775	24	37	92.7	2.9	4.4
d	984	18	90	876	802	43	31	91.6	1.2	3.5
Total	4684	66	354	4264	3846	144	274	90.2	3.4	6.4
Grand Total	29510	781	2000	26729	23431	422	2876	87.7	1.6	10.7

EXACT SCIENCES

High	No. enrolled	No. dropped	No. left	No. remaining	No. passed	No. conditioned	No. failed	% passed	% conditioned	% failed
1	2900	221	254	2425	1756	94	575	72.4	3.9	23.7
2	2214	123	86	2005	1721	51	233	85.8	2.5	11.7
3	1864	58	83	1723	1447	30	246	84.0	1.7	14.3
4	1759	31	151	1577	1368	20	189	86.7	1.3	12.0
5	2152	60	127	1965	1472	12	481	74.9	.6	24.5
6	3394	61	208	3125	2716	26	383	86.9	.8	12.3
7	2072	15	135	1922	1662	12	248	86.5	.6	12.9
8	856	21	46	789	654	25	110	82.9	3.2	13.9
9	1220	18	76	1126	1015	0	111	90.1	.0	9.9
10	650	13	84	553	443	0	110	80.1	.0	19.9
Total	19081	621	1250	17210	14254	270	2686	82.8	1.6	15.6
Intermediate										
a	1935	17	118	1800	1623	0	177	90.2	.0	9.8
b	990	31	58	901	824	41	36	91.5	4.6	3.9
c	1012	4	71	937	808	49	80	86.2	5.2	8.6
d	1254	29	132	1093	989	39	65	90.5	3.6	5.9
Total	5191	81	379	4731	4244	129	358	89.7	2.7	7.6
Grand Total	24272	702	1629	21941	18498	399	3044	84.3	1.8	13.9

Social Sciences

High	No. enrolled	No. dropped	No. left	No. remaining	No. passed	No. conditioned	No. failed	% passed	% conditioned	% failed
1	1030	49	121	860	745	5	110	86.6	.6	12.8
2	865	23	27	815	757	15	43	82.9	1.9	5.2
3	1107	19	55	1033	926	9	59	93.4	.9	5.7
4	1057	12	113	932	802	10	120	86.0	1.1	12.9
5	964	9	34	921	788	6	127	85.6	.6	13.8
6	2253	17	132	2104	1933	4	167	91.9	.2	7.9
7	1248	15	70	1163	1074	2	87	92.3	.0	7.5
8	569	7	25	537	510	0	27	95.0	.0	5.0
9	510	5	41	464	429	0	35	92.5	.0	7.5
10	226	2	38	186	161	5	25	86.6	.0	13.4
Total	9829	158	656	9015	8164	51	800	90.6	.6	8.8
Intermediate										
a	1020	9	69	942	864	0	78	91.7	.0	8.3
b	1150	36	56	1058	939	67	52	88.8	6.3	4.9
c	1346	6	118	1222	1126	23	73	92.2	1.9	5.9
d	767	7	86	674	619	20	35	91.8	3.0	5.2
Total	4283	58	329	3896	3548	110	238	90.7	2.8	6.1
Grand Total	14112	216	985	12911	11712	161	1038	90.7	1.2	8.1

Vocational

High										
1	3491	172	432	2887	2385	63	439	82.6	2.2	15.2
2	1678	36	103	1539	1450	60	59	94.2	2.0	3.8
3	2470	58	131	2281	2025	25	231	88.8	1.1	10.1
4	1964	32	147	1785	1614	20	151	90.4	1.1	8.5
5	1447	22	90	1335	1165	1	169	87.3	.1	12.6
6	2422	49	170	2203	2026	5	172	92.0	.2	7.8
7	2239	22	159	2058	1892	12	154	91.9	.6	7.5
8	1167	83	83	1506	968	27	61	91.7	2.6	5.7
9	1588	18	126	1444	1324	0	120	91.7	.0	8.3
10	2086	47	281	1758	1502	13	243	85.4	.8	13.8
Total	20552	484	1722	18346	16351	196	1799	89.1	1.1	9.8
Intermediate										
a	2339	8	164	2167	2082	0	85	96.1	.0	3.9
b	1669	27	104	1538	1444	39	55	93.9	2.5	3.6
c	1650	18	123	1509	1364	32	113	90.4	2.1	7.5
d	2362	49	149	2164	2053	35	76	94.9	1.6	3.5
Total	8020	102	540	7378	6943	106	329	94.1	1.4	4.5
Grand Total	28572	586	2262	25724	23294	302	2128	90.6	1.2	8.2

Fine Arts

High										
1	489	42	21	426	387	5	34	90.9	1.2	7.9
2	503	9	25	469	452	15	2	96.4	3.2	.4
3	299	10	12	277	254	11	12	91.7	4.0	4.3
4	688	19	30	639	632	1	6	98.9	.2	.9
5	113	1	10	102	98	0	4	96.1	.0	3.9
6	971	23	66	882	868	0	14	98.4	.0	1.6
7	926	17	48	861	790	1	70	91.8	.1	8.1
8	795	23	32	743	703	31	9	94.6	4.2	1.2
9	246	2	10	234	227	0	7	97.1	.0	2.9
Total	5030	143	254	4633	4411	64	158	95.3	1.4	3.4
Intermediate										
a	1071	4	108	959	932	0	27	97.2	.0	2.8
b	1202	13	75	1114	1063	15	36	95.4	1.3	3.3
c	1005	2	79	924	898	7	19	97.1	.8	2.1
d	634	10	52	572	558	4	10	97.6	.7	1.7
Total	3912	29	314	3569	3451	26	92	96.7	.7	2.6
Grand Total	8942	172	568	8202	7862	90	250	95.8	1.1	3.0

Annual Reports. The annual reports include those required for budget-making, age-grade and nationality surveys, age-grade-progress, and health studies. The budgeting reports are, in fact, combinations of the monthly child and teacher accounting and housing studies. For budget information, they may be used as an annual report upon the basis of the peak-load month, if that happens to be sixty days prior to the preparation of the budget. Budgets generally, for fiscal years beginning in July, may be built upon November membership, teaching, and housing conditions. From the census and membership data can be estimated the probable building demand by building districts, and from a study of these reports, in conjunction with depressing or stimulating economic and social factors, can be estimated quite accurately the probable growth. Teacher accounting reports furnish the basis for determining whether the teacher-load is in accord with local policy. Housing conditions indicate use and the necessity for new buildings. All three are essential to scientific budget-making.

AGE-GRADE NATIONALITY

If the age-grade study is used, the report to superintendent and field workers should include the amount of three-year or more retardation by years by schools. The following is an illustration:

TABLE IV—PER CENT OF RETARDATION OF THREE-OR-MORE YEARS BY SCHOOLS, 1916 TO 1921 (Kindergarten Through Eight-A Grade)

School	Membership 1921	% 1916	% 1917	% 1918	% 1919	% 1920	% 1921
1	786	1.9	1.4	0.0	0.5	1.0	1.1
2	726	1.2	0.9	0.4	1.2	2.5	2.6
3	1204	.....	0.9	0.5	0.6	0.6	1.3
4	80	.....	.....	.....	14.0	11.8	10.0
5	216	3.2	4.1	2.0	1.6	0.4	3.2
6	1007	.....	.....	.....	.....	.....	3.7
7	745	12.2	12.7	7.7	7.9	10.1	10.1
8	755	2.5	2.4	1.1	1.3	1.2	1.1
9	138	2.4	4.1	1.8	0.0	1.9	0.0
10	772	9.1	6.2	3.4	2.7	4.0	4.9

The second group of facts to be presented are retardation and acceleration by half-grades, of which sample pages are presented.

II. RETARDATION BY GRADES

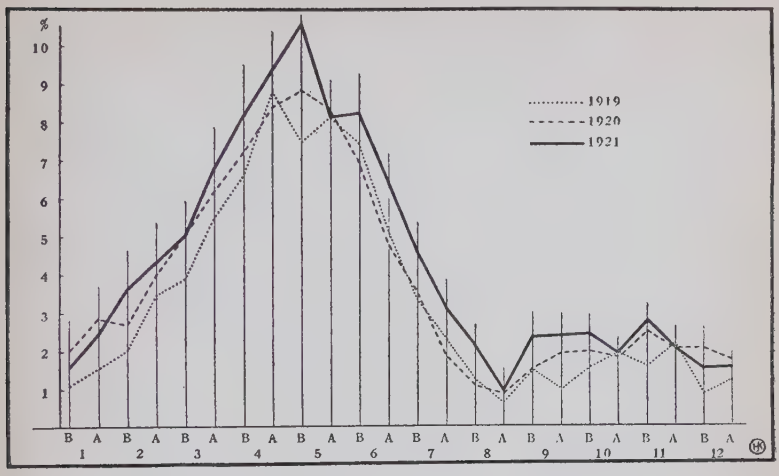

FIGURE 31—RETARDATION BY GRADES AND YEARS

The heavy line in Figure 31 shows the retardation for 1921. The broken lines represent two previous years. A distinct gain is shown over 1920 in the first grade, due probably to the method of classification. In the other grades, except 3B, 5A, 8A, 10A, 11A, 12B, and 12A, the influx of children new to the system has increased the retardation over that of 1920.

The number and per cents of pupils retarded three years or more are shown in Table I.

TABLE I—THREE-OR-MORE YEAR RETARDATION BY GRADES

	No. Boys	% Boys	No. Girls	% Girls	No. Total	% Total
Kindergarten	0	0.00	3	0.05	3	0.01
B 1	93	1.59	87	1.59	180	1.59
A 1	87	2.30	97	2.62	184	2.46
B 2	194	3.89	154	3.33	348	3.62
A 2	165	4.85	121	3.78	286	4.33
B 3	181	4.90	184	5.18	365	5.04
A 3	214	6.88	196	6.77	410	6.83
B 4	300	9.21	245	7.22	545	8.20
A 4	276	10.71	211	8.04	487	9.36
B 5	319	12.22	252	9.05	571	10.58
A 5	229	9.26	167	7.02	396	8.16
B 6	243	9.40	185	7.12	428	8.26
A 6	167	7.79	108	5.04	275	6.42
B 7	117	4.81	107	4.41	224	4.61
A 7	76	3.82	50	2.39	126	3.09
B 8	56	2.51	38	1.69	94	2.10
A 8	20	1.16	11	0.64	31	0.90
B 9	83	3.13	34	1.44	117	2.34
A 9	49	3.33	20	1.39	69	2.37
B10	51	3.78	14	1.04	65	2.42
A10	28	3.50	3	0.36	31	1.90
B11	34	4.23	9	1.20	43	2.76
A11	20	3.08	4	0.75	24	2.02
B12	6	2.42	4	0.64	18	1.50
A12	14	1.44	5	1.66	11	1.53

III. ACCELERATION BY GRADES

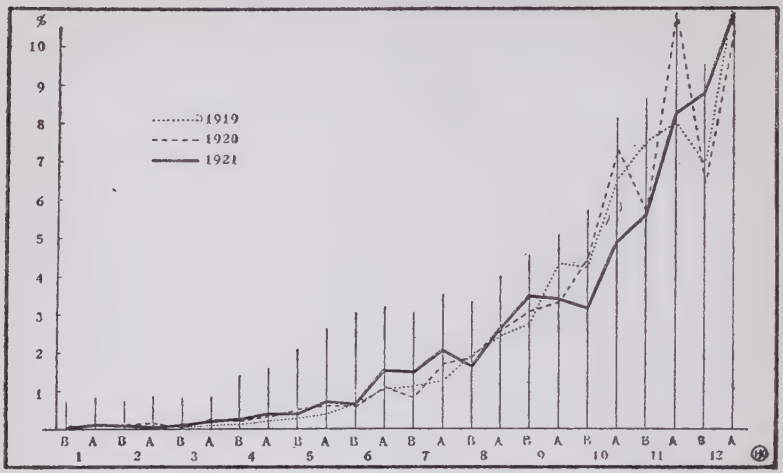

FIGURE 32—ACCELERATION BY GRADES AND YEARS

The heavy line in Figure 32 shows the acceleration in 1921. The broken lines represent two previous years. There is very little difference through 6B. Grades 6A, 7B, 7A, 9B and 12B show greater acceleration. The other grades show decreases.

The number and per cents of pupils accelerated three years or more are shown in Table II.

TABLE II—THREE-OR-MORE YEAR ACCELERATION BY GRADES

	No. Boys	% Boys	No. Girls	% Girls	No. Total	% Total
Kindergarten	0	0.00	0	0.00	0	0.00
B 1	2	0.03	1	0.02	3	0.01
A 1	5	0.13	3	0.08	8	0.11
B 2	7	0.14	5	0.10	12	0.12
A 2	1	0.03	3	0.09	4	0.06
B 3	4	0.11	3	0.08	7	0.10
A 3	2	0.06	10	0.34	12	0.20
B 4	4	0.12	14	0.41	18	0.27
A 4	5	0.19	16	0.61	21	0.40
B 5	7	0.27	14	0.50	21	0.39
A 5	17	0.68	18	0.76	35	0.72
B 6	17	0.66	16	0.61	33	0.64
A 6	30	1.40	37	1.72	67	1.56
B 7	32	1.32	41	1.68	73	1.50
A 7	32	1.61	53	2.53	85	2.08
B 8	42	1.89	32	1.41	74	1.65
A 8	40	2.31	52	3.01	92	2.66
B 9	103	3.89	71	3.01	174	3.48
A 9	54	3.67	45	3.12	99	3.40
B10	47	3.47	38	2.84	85	3.16
A10	42	5.26	38	4.55	80	4.89
B11	50	6.22	37	4.91	87	5.59
A11	58	8.92	40	7.45	98	8.26
B12	46	7.92	59	9.48	105	8.73
A12	47	11.24	31	10.26	78	10.83

A third table may present the retardation and acceleration by individual schools, as follows:

School	Membership	Retardation			In Grade at Age	Acceleration		
		3 Yrs.	2 Yrs.	1 Yr.		1 Yr.	2 Yrs.	3 Yrs.
1.....	1002	2.8	5.0	14.7	14.7	56.1	6.4	.3
2.....	80	10.0	10.0	23.7	13.7	32.5	8.8	1.3
3.....	1051	2.4	6.5	14.6	15.8	54.4	5.8	.5
4.....	66	6.1	6.1	10.6	3.0	35.0	36.0	3.0
5.....	965	1.5	3.2	8.5	13.5	65.6	7.6	.1
6.....	913	4.7	7.0	14.8	19.1	48.4	5.7	.3
7.....	1067	5.2	9.1	14.2	15.8	47.1	8.3	.3
8.....	467	5.6	6.1	18.0	15.8	50.0	4.1	.6
9.....	1207	3.0	6.1	15.2	13.6	57.7	4.1	.3
10.....	335	5.4	9.8	25.1	16.4	36.9	6.0	.6
11.....	960	2.4	4.5	14.2	15.3	56.0	7.0	.6
12.....	109	2.7	4.5	28.5	15.6	45.0	3.7	.0
Total..	8222	3.4	6.2	14.7	15.4	53.5	6.4	.4

Other data, to be used for analytical purposes, can be added. This would include, first, a study of retardation by nationality, tabulated as follows:

THREE-OR-MORE YEAR RETARDATION BY NATIONALITY GROUPS IN ELEMENTARY SCHOOLS (Kindergarten through 8-A)

Nationality Group	Membership	No. Retarded	% Retardation
United States (White).....	49169	974	1.98
Anglo-Saxon-Teutonic.....	13295	395	2.97
Canada.....	6563	159	2.42
Latin.....	8613	722	8.38
Slavic.....	20939	1671	7.97
Magyar-Tartar.....	3470	170	4.91
Baltic.....	865	29	3.35
Armenian-Syrian.....	833	101	12.11
Asiatic.....	111	22	19.82
Colored.....	5218	732	14.02
Total.....	109076	4975	4.56

A comparative nationality table is also desirable to check changes in city population.

DISTRIBUTION OF NATIONALITIES OF PUPILS

	1920		1921		Difference 1921 over 1920	
	No.	%	No.	%	No.	%
U. S. White	60036	50.56	59965	46.50	— 71	—4.06
Poland	9430	7.94	11907	9.23	+2477	+1.29
Russia	7760	6.54	9205	7.13	+1445	+0.59
Canada	6979	5.88	8385	6.50	+1406	+0.62
Italy	4992	4.21	6218	4.82	+1226	+0.61
Germany	5578	4.72	5775	4.47	+ 197	—0.25
Colored	5436	4.58	5680	4.40	+ 244	—0.18
England	3831	3.23	4068	3.15	+ 237	—0.08
Hungary	2786	2.35	3213	2.49	+ 427	+0.14
Austria	1479	1.25	2355	1.82	+ 876	+0.57
Scotland	1317	1.11	1672	1.29	+ 355	+0.18
Belgium	942	0.79	1356	1.05	+ 414	+0.26
Jugo-Slavia	475	0.40	1254	0.97	+ 779	+0.25
Roumania	852	0.72	1075	0.83	+ 223	+0.11
Lithuania	917	0.77	979	0.75	+ 62	—0.02
Czecho-Slovakia	1143	0.96	785	0.60	— 358	—0.36
Ireland	681	0.57	721	0.55	+ 40	—0.02
Sweden	514	0.43	624	0.48	+ 110	+0.05
Ukraine	587	0.49	614	0.47	+ 27	—0.02
Armenia	553	0.47	522	0.39	— 31	—0.08
Finland	391	0.33	427	0.33	+ 108	0.
Netherlands	357	0.30	420	0.32	+ 63	+0.02
France	463	0.39	381	0.29	— 82	—0.10
Greece	240	0.20	324	0.25	+ 84	+0.05
Denmark	242	0.20	279	0.21	+ 37	+0.01
Norway	168	0.14	195	0.15	+ 27	+0.01
Switzerland	153	0.13	169	0.13	+ 16	0.
Turkey	59	0.05	86	0.09	+ 27	+0.04
Bulgaria	17	0.01	59	0.04	+ 42	+0.03
Latvia	61	0.05	54	0.04	— 7	—0.01
Malta	39	0.03	47	0.04	+ 8	+0.01
Mexico	69	0.06	37	0.02	— 32	—0.04
Spain	38	0.03	37	0.02	— 1	—0.01
China	34	0.03	36	0.03	+ 2	0.
Unclassified	50	0.05	26	0.02	— 24	—0.03
Japan	1	0.01	14	0.01	+ 13	—0
Australia	37	0.03	10	0.01	— 27	—0.02
Portugal	1	0.01	8	0.01	+ 7	0.
	118708	100%	128982	100%		

Distribution of nationalities may be followed by a study of dominant nationalities by individual schools, in the following form:

PREDOMINANT NATIONALITIES BY SCHOOLS

School	Membership	First	%	Second	%	Third	%	Fourth	%
1.....	785	U. S. Wh.	41.9	Russia	30.1	Poland	6.9	England	3.5
2.....	767	U. S. Wh.	69.7	Canada	8.7	Poland	6.4	Canada	4.9
3.....	1212	U. S. Wh.	77.1	Canada	11.7	England	2.9	Russia	1.8
4.....	78	U. S. Wh.	59.0	Germany	12.8	Poland	7.7	England	6.4
5.....	215	U. S. Wh.	63.7	Canada	11.7	Scotland	3.7	England	3.3
6.....	1019	Russia	52.3	U. S. Wh.	20.6	Poland	6.8	Austria	3.9
7.....	753	Italy	44.2	U. S. Col.	27.4	U. S. Wh.	13.9	Syria	5.7
8.....	693	U. S. Wh.	75.5	Germany	7.4	Canada	6.5	Hungary	4.0
9.....	200	U. S. Wh.	33.0	Hungary	19.5	Armenia	6.0	England	5.5
10.....	869	U. S. Wh.	47.3	Belgium	14.3	Italy	11.3	Canada	7.1

Median ages at time of entrance may be tabulated by nationality, together with the city averages, in the following form:

MEDIAN AGES AT TIME OF ENTRANCE BY GRADE AND NATIONALITY

	Kdg.	B1	A1	B2	A2	B3	A3	B4	A4
U. S. Wh.....	5.61	6.35	6.95	7.55	8.12	8.63	9.26	9.80	10.44
A. S.—T.....	5.64	6.41	7.05	7.70	8.28	8.76	9.37	9.90	10.56
Canadian.....	5.65	6.40	7.35	7.63	8.26	8.60	9.33	9.90	10.43
Latin.....	5.68	6.82	7.40	8.20	8.90	9.55	10.17	10.75	11.43
Slavic.....	5.72	6.76	7.34	7.97	8.72	9.21	9.91	10.48	11.10
Magyar.....	5.66	6.66	7.31	8.00	8.62	9.02	9.73	10.25	10.87
Baltic.....	5.80	6.56	7.24	7.90	8.37	8.85	9.42	10.39	10.61
Armenian.....	5.70	6.65	7.26	8.24	8.89	9.52	9.99	10.82	11.66
Colored.....	5.65	6.57	7.46	8.25	8.93	9.68	10.52	10.97	11.65
City.....	5.64	6.54	7.15	7.79	8.23	8.92	9.56	10.11	10.75

A study of the per cent of each nationality in the various grades will serve as an indication of probable social and curriculum problems in the different grades that a diverse social group brings to the school administrator, and points the way to a study of social differences as related to the course of study.

In an appendix, other tables may be used, with as great an amount of detail as seems desirable to any particular district.

Standards of Growth. Standards of growth may be developed annually. The function of a mass study of this type is to develop an age-height-weight table for the district, and to use it as a gauge to determine the number of children who fall, say 15 per cent, below the average height and weight for a given age. As in the case of the age-grade study, it merely indicates the problem, and should be used only as a basis. The so-called underweight group[6] may be separately examined and analyzed in light of modifying factors, such as nationality, character type, and actual health conditions.

In starting this study, it is advisable to develop age-height-weight tables as of September, December, March, and June, in order to establish the proper correction tables for the seasons. The weight of children appears to vary with seasonal changes, and the application of a winter table in spring or early fall may show a surprising number of underweight children.

Samples of an age-height-weight table, averaged from a fall and winter measurement are shown on the following pages. This table refers to conditions in Detroit, and the growth problems generally must be developed under conditions existing in each locality.

The deviations from an assumed normal may be next developed. These are usually expressed in 15 per cent tables, and can be illustrated graphically, as on the following page. The third step, after determining the apparently seriously underweight group, depends upon the school's health policy. Medical examination and corrective measures, based on the results of such examinations, are the administrative steps pointed out by the study.

[6]Underweight does not necessarily mean undernourished.

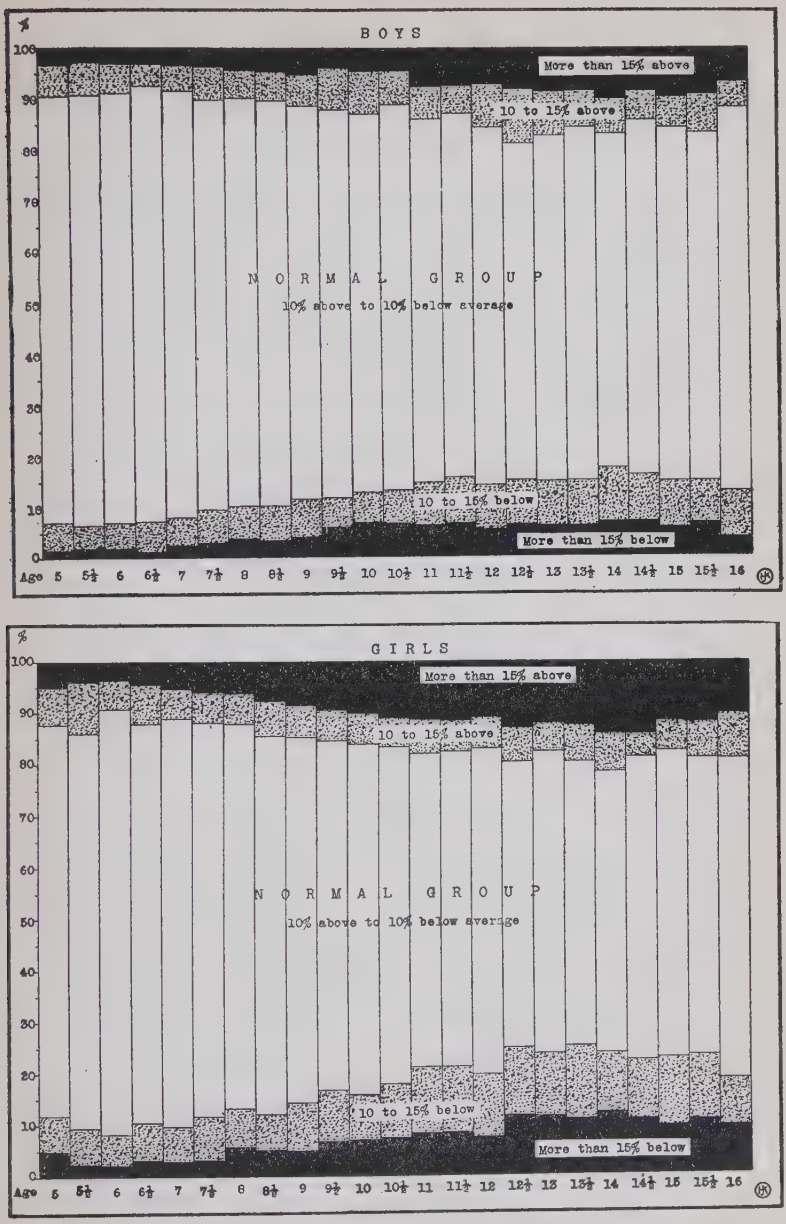
%
BOYS
More than 15% above
10 to 15% above
NORMAL GROUP
10% above to 10% below average
10 to 15% below
More than 15% below
Age 5 5½ 6 6½ 7 7½ 8 8½ 9 9½ 10 10½ 11 11½ 12 12½ 13 13½ 14 14½ 15 15½ 16
%
GIRLS
More than 15% above
10 to 15% above
NORMAL GROUP
10% above to 10% below average
10 to 15% below
More than 15% below
Age 5 5½ 6 6½ 7 7½ 8 8½ 9 9½ 10 10½ 11 11½ 12 12½ 13 13½ 14 14½ 15 15½ 16

FIGURE 33—DEVIATIONS IN HEIGHT-WEIGHT FROM AN ASSUMED NORMAL

DETROIT HEIGHT AND WEIGHT TABLE FOR BOYS

Height in Inches	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15½	16	16½	17
39	36	36	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
40	37	37	37	38	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	38	38	38	39	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
42	39	39	39	40	41	42	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
43	41	41	41	41	42	42	42	43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
44	43	43	43	43	43	43	43	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
45	45	45	45	45	45	45	45	46	48	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
46	47	47	47	47	47	47	47	47	49	50	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
47	.....	49	49	49	49	49	49	49	51	51	51	51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
48	.....	51	51	51	51	51	51	52	52	52	53	55	56	56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
49	.....	.....	53	53	54	54	54	54	54	55	55	56	57	58	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
50	.....	.....	.....	55	56	56	56	56	57	57	58	58	59	60	60	63	64	.....	.....	.....	.....	.....	.....	.....	.....
51	.....	.....	.....	.....	.....	58	58	59	59	59	61	61	62	63	65	66	67	.....	.....	.....	.....	.....	.....	.....	.....
52	.....	.....	.....	.....	.....	61	61	62	63	63	63	63	64	65	66	69	68	68	.....	.....	.....	.....	.....	.....	.....
53	.....	.....	.....	.....	.....	.....	62	64	65	65	66	67	67	67	68	68	69	69	71	.....	.....	.....	.....	.....	.....
54	.....	.....	.....	.....	.....	.....	.....	67	67	68	69	70	70	70	72	72	72	72	74	.....	.....	.....	.....	.....	.....
55	.....	.....	.....	.....	.....	.....	.....	.....	71	71	73	73	73	73	74	75	75	75	76	77	80	.....	.....	.....	.....
56	.....	.....	.....	.....	.....	.....	.....	.....	72	72	74	75	75	75	77	77	77	77	79	79	84	.....	.....	.....	.....
57	.....	.....	.....	.....	.....	.....	.....	.....	.....	73	76	78	80	80	80	82	82	82	82	82	85	85	.....	.....	.....
58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	81	81	83	83	83	84	84	85	86	86	87	91	91	.....	.....
59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	82	83	84	84	88	88	88	89	91	91	92	92	94	.....	.....
60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	89	93	93	93	93	95	95	98	98	100	102	.....
61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	95	99	99	99	99	100	100	102	102	102	103	.....
62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	101	101	101	104	105	105	107	109	111	111
63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108	108	109	109	111	111	111	113	118
64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	112	112	114	115	116	119	121	122
65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	118	118	118	118	118	119	121	123	127
66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	119	121	125	125	126	127	131
67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	128	128	130	133	135

The average weight of a boy is found opposite his height and under his age. Example: The average weight for a boy 45 inches tall and seven years old is 45 pounds.

DETROIT HEIGHT AND WEIGHT TABLE FOR GIRLS

Height in Inches	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	12½	13	13½	14	14½	15	15½	16	16½	17
39	35	35	36	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
40	36	36	37	37	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
41	37	37	38	38	38	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
42	39	39	39	40	40	41	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
43	41	41	41	41	41	42	42	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
44	42	43	43	43	43	43	44	44	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
45	44	45	45	45	45	45	45	45	47	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
46	.....	47	47	47	47	47	47	47	48	49	49	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
47	.....	48	48	48	49	49	49	49	49	50	51	51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
48	.....	.....	50	50	51	51	51	51	51	52	52	54	54	54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
49	.....	.....	.....	52	53	53	53	53	54	54	55	55	56	58	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
50	.....	.....	.....	52	55	56	56	56	56	57	58	58	59	60	63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
51	.....	.....	.....	.....	57	58	58	59	59	59	61	61	61	61	64	64	65	.....	.....	.....	.....	.....	.....	.....	.....
52	.....	.....	.....	.....	.....	60	62	62	62	62	63	63	64	64	66	66	66	.....	.....	.....	.....	.....	.....	.....	.....
53	.....	.....	.....	.....	.....	.....	64	64	65	66	67	67	67	67	68	68	69	71	.....	.....	.....	.....	.....	.....	.....
54	.....	.....	.....	.....	.....	.....	66	66	68	69	69	70	70	73	73	73	73	75	75	.....	.....	.....	.....	.....	.....
55	.....	.....	.....	.....	.....	.....	.....	72	72	72	72	73	73	75	77	77	77	77	77	.....	.....	.....	.....	.....	.....
56	.....	.....	.....	.....	.....	.....	.....	.....	.....	75	75	76	76	78	81	81	81	81	82	83	86	.....	.....	.....	.....
57	.....	.....	.....	.....	.....	.....	.....	.....	.....	77	77	79	80	83	84	84	84	84	86	89	95	95	.....	.....	.....
58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	82	84	85	86	88	88	88	89	91	92	96	97	98	99	.....
59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	84	86	90	91	92	92	92	92	95	97	100	101	103	103	107
60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	95	95	97	97	97	98	100	102	103	105	108	108	108
61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	97	100	103	103	103	103	104	106	108	109	111	111	112
62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	104	104	104	107	107	107	109	110	111	113	113	115
63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	112	112	112	113	114	116	116	116	119	119
64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	115	115	115	115	116	119	119	121	121	122
65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	115	120	120	121	124	125	125	125	125
66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	122	122	126	126	126	128	131
67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	129	129	131	.....	.....

The average weight of a girl is found opposite her height and under her age. Example: The average weight for a girl 42 inches tall and seven years old is 40 pounds.

Age-Grade-Progress. The compilation of the material for the age-grade-progress report can be made by hand or machine from the data described in the preceding chapter. The compiled results may be presented for administrative purposes in the form of a summary statement derived from a series of distribution tables, including: (1) a grade-progress table; (2) a rapid- and slow-progress table by grades; (3) analysis of grade-progress by groups; (4) analysis of grade-progress by nationality; (5) age-grade analyzed according to grade at entrance; and (6) age-grade analyzed according to age at entrance. These groups of tables can be converted into percentage distributions. Further studies deemed desirable can be developed from the basic data. Examples of four of the distribution tables are presented:

TABLE I—GRADE—PROGRESS TABLE

No. Terms	1B	1A	2B	2A	3B	3A	4B	4A	5B	5A	6B	6A
0												
1												
2												
3												
4												
5												
6												
Etc.												

TABLE II—RAPID AND SLOW PROGRESS OF PUPILS BY GRADE

Grade	Rapid Progress Detailed by Terms						Rapid Progress	Normal Progress	Slow Progress	Slow Progress Detailed by Terms					
	1	2	3	4	5	6				1	2	3	4	5	6
1B															
1A															
2B															
2A															

TABLE III—The above expressed in per cents.

TABLE IV—ANALYSIS OF GRADE PROGRESS BY GROUPS

Group Progress	Under Age				Normal Age				Over Age				Totals			
	R.	N.	S.	Total	R.	N.	S.	Total	R.	N.	S.	Total	R.	N.	S.	Total
Numbers																

TABLE V—Table IV expressed in per cents.

TABLE VI—Table IV shown in greater detail by years of rapid and slow progress.

TABLE VII—(Group) Table IV analyzed by Nationalities.

TABLE VIII—Table VII expressed in per cents.

TABLE IX—A series of tabulations in which present age-grade is analyzed to grade at entrance.

TABLE X—A series of tabulations in which present age-group is analyzed to age at entrance. This series will show central tendencies of early and late entrance.

TABLE XI—A series of tabulations in which present age-group is analyzed to type of school at entrance.

CHAPTER XIII

ADMINISTRATIVE RECORDS (THE STATE)

STATE needs are for educational records, general in character and uniform as to form and method. Their functions are comparative, analytic, and archival. As to type, they fall into the divisions of child and teacher accounting, supervisory, or instructional records, finance, and physical plant data. The discussion in this chapter will be limited to child and teacher-accounting.

Child and teacher records may be divided into four classes, upon the basis of the time interval. These are: (a) current, (b) semi-annual, (c) annual, and (d) at longer than annual intervals. The forms used and method of presentation are generally quite similar to those discussed in the previous chapter, except that in the state the collection unit is greatly increased in size.

Current Records. In the first group may be classified the daily reports of entries and withdrawals from all districts in the state. These are constantly being received in the process of keeping the school census for the state upon a continuing basis. The technique and essential forms have been fully covered under the general discussion relating to the census.[1]

Failure Reports. The second group contains the promotion and failure records. It is considered desirable as a means of better distribution of work that the collection be made shortly after the close of the semester. The forms employed would be a consolidation of the results secured in each district. Such a

[1] See Chapter X.

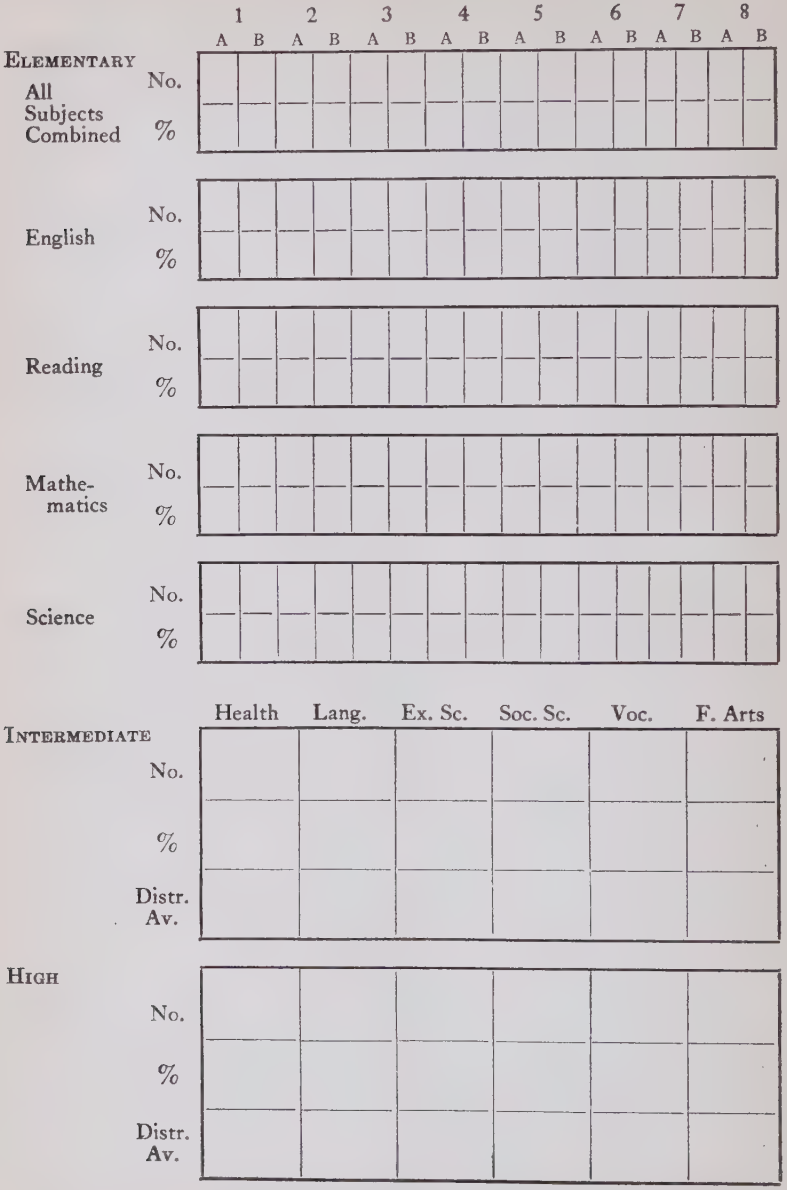

FIGURE 34—STATE FORM FOR COLLECTION OF PROMOTION-FAILURE REPORTS

form should show the failures by subjects by grades for the several school divisions, such as the elementary, intermediate, and high school; the average per cent of failure by grades; and, for the district as a whole, by school divisions. The information so secured may be tabulated easily by type of district, and the index of promotion and failure for the entire state secured. The required form is shown on the opposite page.

Annual Reports. Annual reports include the statistical, the age-grade, teacher salary, teacher qualifications and experience, teacher turnover, and teacher supply. The state department needs to know the amount of school service given, and this may be best secured from the monthly attendance report,[2] which includes registration, transfer entries, withdrawals, monthly and average attendance. The report used by the state for the collection of these data may be the same form used by the individual schools within a district as a consolidation sheet. Each district would simply prepare a consolidation of all its schools, and the state department, in consolidating by districts, would maintain the same outline. The consolidated district attendance report may, after a continuing child-accounting system is fully established, be requested as a monthly report from all districts, and used as a check against current reports. The attendance report is actually the monthly balance sheet of daily child accounting transactions and activities. It will serve this function admirably, as well as provide the annual records of membership and attendance.

The general index of the age-group distribution of children within the grading system is secured through the annual age-grade report.[3] Here again the state may use the local form (17) for collection purposes. The consolidation of these forms by districts and their tabulation will furnish the means of analyzing roughly the general educational condition within the several districts. It must be understood, however, that the results of a

[2]See Chapter XI for form 7.

[3]See Chapter X.

mass study such as this does not present methods or solutions, but merely points out the problem. The age-grade study is of interest as a barometer and as a permanent record.

Teacher Records. Teacher records may be continuing, in the same manner as the school census. The appointment or resignation of a teacher should be reported at the time of entry or withdrawal. The continuing record[4] of the number of teachers in service will furnish the data, without further demand upon the local district, for necessary reports on teachers according to professional training, to number, type of service, or school, to age and experience, and will also give the rate of turnover. Such record can be simply kept by means of an individual teacher-record card, on which is shown the name, date of birth, the professional qualifications and attainments, and the teaching experience by districts. Such a form is shown in the appendix. The column on professional qualifications may be modified to meet the legal requirements of the state in which it is used.

Teacher Supply. The complementary records to the foregoing consist of sources of teachers. Every teacher-training school, college, or university should be required to file with the state department of education, not later than January 1 of each year, the probable number of persons who will be graduated or approved as teachers during that academic year. The report from teacher-training centers should include the number, classified according to certification and subject specialty. The demand for teachers can be determined by a study of the growth curve as developed from the child-accounting reports, of the younger age groups as revealed by the census, together with a study of the teacher load as revealed by size of class and teacher turnover. The correlation of these factors will enable the state department to foretell within a fairly narrow range the probable demand for teachers,[5] and would enable the state department to inform super-

[4]A copy of form 24 may be found in the appendix. Printing specifications for form 24 follow:

SIZE: 5 x 8. STOCK: No. 1 Index Bristol, White, 140 lb. RULING: Printers'. COMPOSITION: as per diagram.

[5]For a discussion of this subject, see a *Survey of the Needs of the Michigan State Normal Schools*, Lansing, 1922, Chapters V and XVIII.

intendents and school boards of the situation in time, so that, in case of apparent teacher shortage, the over supply from other states might be secured. This valuable teacher service is only one phase of the constructive value of continuing state records.

There are two other teacher reports required by the state department. The first is the salaries of teachers and the second the teaching load. The teacher salary report is simple in nature, and requires only a distribution of the number, by type of school, and certification at the various steps in a salary schedule, using $100 as a class interval. The superintendent's report may serve as the report to the state department. The value of state salary reports to the superintendents and boards of education will be greatly increased by a complementary study giving a general statement of living conditions in the several sections. From such a survey could be annually developed a living-cost index, which might be used by teacher and school board alike to determine relative basic salaries in different parts of the state. This form, together with instructions, can be easily carried on a two-fold (8½″ x 11″) sheet, convenient in form for both mailing and filing. A sample is shown on the following pages.

.....District

.....Date

Report to State Department of Education on Teachers' Salaries

.....Officer Reporting

SALARIES OF TEACHERS

Salary	ELEMENTARY								INTERMEDIATE								HIGH SCHOOL							
	Men				Women				Men				Women				Men				Women			
	1*	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Less than $1000																								
1001–1100																								
1101–1200																								
1201–1300																								
1301–1400																								
1401–1500																								
1501–1600																								
1601–1700																								
1701–1800																								
1801–1900																								
1901–2000																								
2001–2100																								
2101–2200																								
2201–2300																								
2301–2400																								
2401–2500																								
2501–2600																								
2601–2700																								
2701–2800																								
2801–2900																								
2901–3000																								
3001–3100																								
3101–3200																								
3201–3300																								
3301–3400																								
3401–3500																								
3501–3600																								
3601–3700																								
3701–3800																								
3801–3900																								
3901–4000																								

PLATE 1—REPORT TO STATE DEPARTMENT ON SALARIES OF TEACHERS

*Years of Preparation beyond high school:

1. Less than two years. 2. Two years. 3. Four years (Degree). 4. More than four years.

.....District

.....Date

Report to State Department of Education on Principals' Salaries

.....Officer Reporting

SALARIES OF PRINCIPALS

Salary	ELEMENTARY								INTERMEDIATE								HIGH SCHOOL							
	Men				Women				Men				Women				Men				Women			
	1*	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Less than $2000																								
2001–2100																								
2101–2200																								
2201–2300																								
2301–2400																								
2401–2500																								
2501–2600																								
2601–2700																								
2701–2800																								
2801–2900																								
2901–3000																								
3001–3100																								
3101–3200																								
3201–3300																								
3301–3400																								
3401–3500																								
3501–3600																								
3601–3700																								
3701–3800																								
3801–3900																								
3901–4000																								
4001–4100																								
4101–4200																								
4201–4300																								
4301–4400																								
4401–4500																								
4501–4600																								
4601–4700																								
4701–4800																								
4801–4900																								
4901–5000																								
5001–5100																								
5101–5200																								

PLATE 2—REPORT TO STATE DEPARTMENT ON SALARIES OF TEACHERS

*Years of Preparation beyond high school:

1. Less than two years. 2. Two years. 3. Four years (Degree). 4. More than four years.

REPORT TO STATE DEPARTMENT OF EDUCATION ON SALARIES

.....Officer Reporting

.....Date

SALARIES OF SUPERINTENDENTS AND OTHER ADMINISTRATIVE OFFICERS

Salary	(Preparation) Men				(Preparation) Women			
	Less than 2 yrs.	Two yrs.	Four yrs. (Degree)	More than 4 yrs.	Less than 2 yrs.	Two yrs.	Four yrs. (Degree)	More than 4 yrs.
Less than $2000								
2001–2100								
2101–2200								
2201–2300								
2301–2400								
2401–2500								
2501–2600								
2601–2700								
2701–2800								
2801–2900								
2901–3000								
3001–3100								
3101–3200								
3201–3300								
3301–3400								
3401–3500								
3501–3600								
3601–3700								
3701–3800								
3801–3900								
3901–4000								
4001–4100								
4101–4200								
4201–4300								
4301–4400								
4401–4500								
4501–4600								
4601–4700								
4701–4800								
4801–4900								
4901–5000								
5001–5100								
5101–5200								
5201–5300								
5301–5400								
5401–5500								
5501–5600								
5601–5700								
5701–5800								
5801–5900								
5901–6000								
–12000								

PLATE 3—REPORT TO STATE DEPARTMENT ON SALARIES OF TEACHERS

Teacher Load. The distribution of class size and teacher load can be combined upon a single report similar in form to the teacher salary blank. The distribution of class size for the elementary school is best reported as a group total instead of by subject. In schools with differentiated curricula, however, the class size should be carried by subject as well as by total. For such cases, a six-way classification is desirable, on the grounds of being simple, easy to handle, and having the virtue of showing the required facts.

The teacher load secured as a general average is not so significant as the teacher load in the several curricular divisions. A good way of securing a standard basis for determining teacher load, in light of the time variations in different types of schools and districts, is the student hour. By use of this standard, all instruction is reduced to a clock-hour basis.

On the following pages is shown a sample of the type of report recommended to secure these data.

REPORT TO STATE DEPARTMENT OF EDUCATION ON CLASS SIZE AND TEACHER LOAD

....

District Officer Reporting Date of Report

I—Distribution of Classes by Size

A—Kindergarten

Classification	Total No. Classes	1–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & over	Total No. Pupils	Per Cent
Total											
Per Cent											

B—Elementary

Classification	Total No. Classes	1–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & over	Total No. Pupils	Per Cent
Total											
Per Cent											

C—Intermediate

Classification	Total No. Classes	1–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & over	Total No. Pupils	Per Cent
Health											
Languages											
Exact Sciences											
Social Sciences											
Vocational											
Fine Arts											
Total											
Per Cent											

D—High School

Classification	Total No. Classes	1–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & over	Total No. Pupils	Per Cent
Health											
Languages											
Exact Sciences											
Social Sciences											
Vocational											
Fine Arts											
Total											
Per Cent											

Plate 4—Report on Class Size and Teacher Load

II—Teaching Load

	Total Student Hours	Length of Single Session (c.Hrs.)	Average Pupil Attend-ance	Average Whole No. Teachers	Average Annual Teaching Load	Average Weekly Teaching Load
Kindergarten						
Elementary (1-6)						
Elementary (1-8)						
Total Elementary						

B—Intermediate

Classification	Total Student Hours	Length of Class Session (c.Hrs.)	Average Pupil Attend-ance	Average S. H. per Pupil Per Wk.	Average Whole No. Teachers	Average Annual Teaching Load	Average Weekly Teaching Load
Health							
Languages							
Exact Sciences							
Social Sciences							
Vocational							
Fine Arts							
Total							

C—High School

Classification	Total Student Hours	Length of Class Session (c.Hrs.)	Average Pupil Attend-ance	Average S. H. per Pupil Per Wk.	Average Whole No. Teachers	Average Annual Teaching Load	Average Weekly Teaching Load
Health							
Languages							
Exact Sciences							
Social Sciences							
Vocational							
Fine Arts							
Total							

Plate 5—Report on Class Size and Teacher Load

Occasional Reports. Reports required at longer than annual intervals are those relating to age-grade-progress, nationality, and growth standards. A nationality survey, taken in conjunction with the age-grade study, is desirable at least every five years, in order to determine the changes in composition of the population and the relative standing of each in relation to retardation or acceleration. For the purposes of such study, the nationality of the father is recommended as the determining classification factor.

Age-grade-progress[6] can be taken every three or six years for the state as a whole. For this purpose, a survey of all sixth and ninth graders is desirable. The age-grade-progress report is an impossibility, however, until at least six years of continuous individual records are available.

The state function in relation to the standard of growth survey would be to develop an average standard of growth table, with corrections for various nationalities, for use by the several districts, in attacking the health problem. The technique of making this survey has been covered in a previous chapter.[7]

State reports have been developed in so far as possible from the consolidations necessary for the superintendent to make for his own district. As a result, the burden of preparing state reports can be lightened considerably while their efficiency may be greatly increased.

[6]Discussed in Chapter XI.
[7]See Chapter XIII.

CHAPTER XIV

FORMS

THE several child accounting forms detailed in previous chapters have been brought together in graphic and tabulated form as a composite of the entire scheme, with the purpose of showing the simplicity of organization and making easy reference possible. In each case, the form is first shown under the initial agency and repeated under others as the occasion demands.

Forms 9, 10, 23, and 24 are essentially basic teacher records from which all other data are derived, with the exception of the census. The cumulative record (form 9) furnishes data for age-grade, age-grade-progress, and the promotion and failure studies. These reports are carried on similar forms from the principal to the superintendent, where the individual school records are consolidated, and to the state, where the districts are consolidated. From the teachers' class record book (form 10) are derived all data regarding attendance and absence. Forms 13, 14, 15, and 16, contact forms, are dependent upon form 10, and these are related to the continuing records, forms 2, 3, and 4 in the superintendent's office. In the state department the correlating records are 2A, 5, 20, and 21.

The teachers' class record book (form 10) also furnishes the data for the monthly attendance report (form 12) and the housing and class report (form 11). The housing report stops in the superintendent's office. Form 12 is carried right through to the state, being consolidated in larger units as it passes from school to superintendent and to the state. Form 23, teacher's student-hour report, is used in the compilation of the housing report, as well as in the general analysis of teaching load by superintendent and by state.

The following figure and table illustrate these uses.

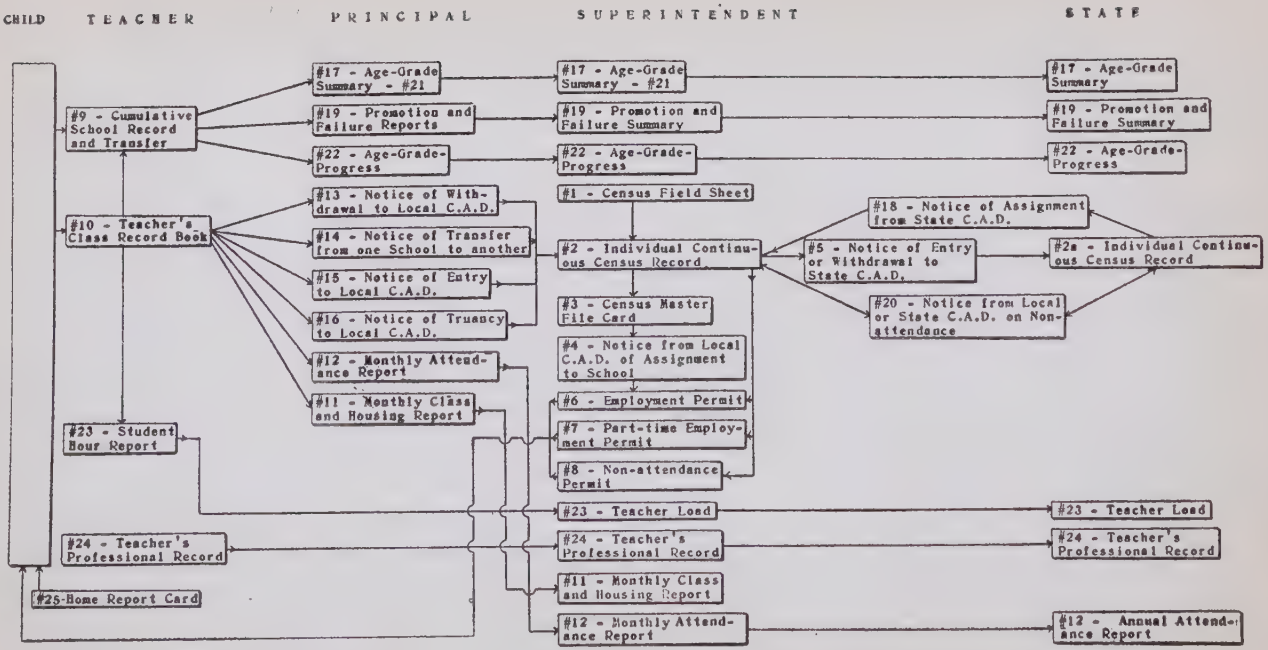
CHILD
TEACHER
PRINCIPAL
SUPERINTENDENT
STATE
#9 - Cumulative School Record and Transfer
#10 - Teacher's Class Record Book
#23 - Student Hour Report
#24 - Teacher's Professional Record
#25-Home Report Card
#17 - Age-Grade Summary - #21
#19 - Promotion and Failure Reports
#22 - Age-Grade-Progress
#13 - Notice of Withdrawal to Local C.A.D.
#14 - Notice of Transfer from one School to another
#15 - Notice of Entry to Local C.A.D.
#16 - Notice of Truancy to Local C.A.D.
#12 - Monthly Attendance Report
#11 - Monthly Class and Housing Report
#17 - Age-Grade Summary - #21
#19 - Promotion and Failure Summary
#22 - Age-Grade-Progress
#1 - Census Field Sheet
#2 - Individual Continuous Census Record
#3 - Census Master File Card
#4 - Notice from Local C.A.D. of Assignment to School
#6 - Employment Permit
#7 - Part-time Employment Permit
#8 - Non-attendance Permit
#23 - Teacher Load
#24 - Teacher's Professional Record
#11 - Monthly Class and Housing Report
#12 - Monthly Attendance Report
#18 - Notice of Assignment from State C.A.D.
#5 - Notice of Entry or Withdrawal to State C.A.D.
#20 - Notice from Local or State C.A.D. on Non-attendance
#17 - Age-Grade Summary
#19 - Promotion and Failure Summary
#22 - Age-Grade-Progress
#2a - Individual Continuous Census Record
#23 - Teacher Load
#24 - Teacher's Professional Record
#12 - Annual Attendance Report
AGENCIES USING CHILD ACCOUNTING FORMS

FIGURE 35

SUMMARY OF CHILD-ACCOUNTING FORMS BY RECORDING AGENCY

FORM		AGENCY			
No.	Title	Teacher	Principal	Superintendent	State
1	Census Field Sheet			Used by Census Enumerator	
2	Individual Continuous Census Record			Child Accounting Dept.	State uses 2-a.
3	Census Master File Card (Individual and Family)			Child Accounting Dept.	
4	Notice from Local Child Accounting Department of Assignment to School			Child Accounting Dept.	
5	Notice to State Department of Entry or Withdrawal			Child Accounting Dept.	State.
6	Employment Permit			Child Accounting Dept.	
7	Part-time Employment Permit			Child Accounting Dept.	
8	Non-Attendance Permit			Child Accounting Dept.	
9	Individual Cumulative School Record and Transfer	Teacher			
10	Teacher's Class Record Book	Teacher			
11	Monthly Class and Housing Report		Principal	Superintendent	
12	Monthly Attendance Report		Principal	Superintendent	
13	Notice of Withdrawal to Local Child Accounting Department		Principal		
14	Notice of Transfer from one School to Another		Princpial		
15	Notice of Entry to Local Child Accounting Department		Principal		
16	Notice of Truancy		Principal		
17	Age-Grade Summary	Teacher	Principal	Superintendent	State.
18	Notice of Assignment from State Department	Teacher	Principal	Superintendent	State.
19, 19a	Promotions and Failure Survey	Teacher	Principal	Superintendent	State.
20	Notice from Local or State Department on Non-attendance				State.
21	Age-Grade and Nationality form for large cities	Teacher	Principal	Child Accounting Dept.	
22	Age-Grade-Progress Report	Teacher	Principal	Superintendent	State.
23	Teacher's Weekly Student Hour Report	Teacher	Principal	Superintendent	State.
24	Teacher's State Record Card	Teacher		Superintendent	State.
25	Monthly Report of Work to Parents	Teacher			

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APPENDIX

INTER-CITY CONFERENCE CHILD ACCOUNTING RULES

Registration or Enrollment. Registration or enrollment shall designate the first entry of a child in the public school system during the current semester, term or quarter, and shall be recorded at the first session the child is in school. Registration is an increasing number which cannot be diminished.

Received by Transfer. Pupils may be received by transfer from schools within the city, (or if a county, state, or other unit of organization exists, from schools within the territory). These shall not be added to registration.

Transfers and Losses (Lefts). This item shall include transfers and losses to other educational institutions or permanent withdrawals from the system.

Permanent withdrawals shall include all pupils discharged to institutions, discharged by reason of employment permit, discharged on account of marriage, or on account of death, all discharges of over and under legal age pupils, discharges by high school graduation, discharges to another school corporation, permanent expulsion of pupils over legal age, or mental incompetency.

A pupil is to be considered as a member of a school until he is known to have been permanently discharged by reason of death, removal from the district, or been discharged as a result of having fulfilled the requirements of the compulsory education laws. It is understood there shall be no temporary withdrawals.

Membership. (Enrollment at date, Number Belonging, or School Register). Membership shall be registration or enrollment plus receipts by transfers and losses (lefts).

Total Enrollment or Original Registrations. Total enrollment shall include every pupil who has been in attendance at any time during the year, counted only in and for the school of original registration.

Average Membership. (Average Number Belonging or Average Daily Register). Average membership shall be the aggregate of the daily membership for the term, semester, quarter or other period divided by the actual number of days school was in season.

Average Daily Attendance. Shall be the aggregate of the daily attendance for the semester, term, quarter, or other period divided by the actual number of days school was in session.

Per Cent of Attendance. This item shall be secured by dividing average attendance by average membership.

Student Hours. A student hour may be defined as a pupil instructed for sixty minutes. It may be secured in the following manner: Daily attendance times length of instruction period in clock hours.

Per Pupil Costs. Pupil costs shall be determined upon three bases: (1) average membership; (2) average daily attendance; (3) in terms of student hours.

It is understood that the practice of computing costs upon total enrollment or registration is to be discouraged for the reason that this figure includes pupils who may have been in attendance a very short time during the term or semester. Such computations are, therefore, fallacious and misleading. It is further recommended that costs be reckoned on average daily attendance, and in terms of student hours rather than membership.

PRESENT ADDRESS — STREET — NUMBER — WARD — BUILDING DISTRICT

PREVIOUS ADDRESS — CENSUS ZONE — BLOCK

FATHER'S — FAMILY NAME — GIVEN NAME — HOME OWNER / TENANT

ARABIA (7) ARMENIA (13) AUSTRIA (8) BELGIUM (18) BOHEMIA (21) BULGARIA (14) CANADA (11) CHINA (17)

COLORED (9) CZECHO-SLOVAKIA (61) DENMARK (12) ENGLAND (21) ESTHONIA (42) FINLAND (41) FRANCE (52) GERMANY (21)

GREECE (12) HOLLAND (12) HUNGARY (11) INDIA (71) IRELAND (22) ITALY (11) JAPAN (72) JEWISH (21)

JUGO SLAVIA (12) LATVIA (12) LITHUANIA (42) MALAY PENINSULA (72) MONTENEGRO (12) NEGRO (11) NETHERLANDS (21) NORWAY (12)

PERSIA (72) POLAND (22) PORTUGAL (72) ROUMANIA (72) RUSSIA (41) SCOTLAND (12) SERBIA (12) SPAIN (12)

SWEDEN (12) SWITZERLAND (21) SYRIA (72) TURKEY (72) U. S. BWTE (11)

MOTHER'S / CHILD'S	SEX M	SEX F	AGE MARCH 81	DATE OF BIRTH MONTH	DAY	YEAR	COUNTRY OF BIRTH OF PERSON	CITIZENSHIP NO	1ST PAPER	YES	PHYSICAL DEFECTS BLIND	DEAF	CRIPPLED	EMPLOYED	NOT EMPLOYED	TYPE OF SCHOOL ATTENDING NONE	NON-PUBLIC	PUBLIC	NAME OF SCHOOL
1.																			
2.																			
3.																			
4.																			
5.																			
6.																			
7.																			
8.																			
9.																			
10																			

Form CA-1—Census Field Sheet

FORM 1—CENSUS FIELD SHEET. (ACTUAL SIZE 11" x 5½")

COUNTY	TOWNSHIP	DISTRICT	C	B C D		
NO.	STREET	BLOCK	FAMILY NAME F M	GIVEN NAME	INITIAL	COUNTRY OF BIRTH

SCHOOL	DATE OF ENTRY	DATE OF LEAVING	REASONS (*)

BIRTH DATE MONTH	DAY	YEAR	SOURCE OF INFORMATION

MAKE ALL OTHER ENTRIES ON BACK OF THIS CARD.
CROSS OUT LETTER IN "CHILD'S GIVEN NAME" SPACE FOR PHYSICAL DEFECT: B-BLIND, C-CRIPPLED, D-DEAF

(*) CODE FOR REASONS FOR LEAVING
TRANSFERRED . . . . TR
MARRIED . . . . . M
DEAD . . . . . D
EMPLOYMENT PERMIT . . . EP
PERMANENT ILLNESS, . . . PI
INSTITUTION . . . . . INST
OVER LEGAL AGE . . . OA
UNDER LEGAL AGE . . . UA

FORM 2—INDIVIDUAL CENSUS RECORD CARD

FORM 2—INDIVIDUAL CONTINUOUS CENSUS CARD (STATE) (ACTUAL SIZE 8″ x 5″)

NO.	STREET	BLOCK NO.	C SEX	FAMILY NAME	B C D GIVEN NAME	INITIAL	COUNTRY OF BIRTH
			F				
			M				

SCHOOL	DATE OF ENTRY	DATE OF LEAVING	REASON (*)

BIRTH DATE — MONTH | DAY | YEAR

SOURCE OF INFORMATION

MAKE ALL OTHER ENTRIES ON BACK OF THIS CARD. CROSS OUT LETTER IN "CHILD'S GIVEN NAME" SPACE FOR PHYSICAL DEFECTS: B - BLIND. C - CRIPPLED. D - DEAF

(*) CODE FOR REASONS FOR LEAVING:

TRANSFERRED .....TR
MARRIED .....M
DEAD .....D

EMPLOYMENT PERMIT...EP
PERMANENT ILLNESS...PI
INSTITUTION.....INST.

OVER LEGAL AGE.....OA
UNDER LEGAL AGE.....UA

FORM CA 2 INDIVIDUAL CENSUS RECORD

FORM 2—INDIVIDUAL CONTINUOUS CENSUS CARD (CITY) (ACTUAL SIZE 8″ x 5″)

FATHER'S OR GUARDIAN'S FAMILY NAME | FIRST NAME | INITIAL | DISTRICT | BLOCK

MOTHER'S NAME | FIRST NAME | WARD | ZONE

CHILDREN'S NAMES	BIRTHDATES	CHILDREN'S NAMES	BIRTH DATES
1		10	
2		11	
3		12	
4		13	
5		14	
6		15	
7		16	
8		17	
9			

FORM 3 FAMILY MASTER CARD

FORM 3—CENSUS FAMILY MASTER CARD.

NOTICE OF ASSIGNMENT TO SCHOOL

NAME _____ GRADE AND CLASS _____ DATE OF BIRTH _____

FORMER ADDRESS _____ ADDRESS TO WHICH CHILD IS MOVING _____

REASON FOR LEAVING _____

NAME OF FATHER _____ NAME OF MOTHER _____

DATE _____ SCHOOL LAST ATTENDED _____

SIGNATURE OF OFFICER IN CHARGE _____

FORM CA 4—NOTICE OF ASSIGNMENT

FORM 4—NOTICE OF ASSIGNMENT

NOTICE FROM SUPERINTENDENT TO STATE DEPT. OF PUBLIC INSTRUCTION

ENTRY - WITHDRAWAL (CROSS OUT ONE)

NAME | GRADE AND CLASS | DATE OF BIRTH

OLD ADDRESS

DISTRICT | TOWNSHIP | COUNTY

THE NEW ADDRESS IS

DISTRICT | TOWNSHIP | COUNTY

NAME OF FATHER | NAME OF MOTHER

DATE | SCHOOL LAST ATTENDED | LOCATION

SIGNATURE OF OFFICER REPORTING

FORM CA 5—NOTICE OF ENTRY OR WITHDRAWAL

FORM 5—NOTICE OF ENTRY OR WITHDRAWAL

A Copy of Form 9 (Actual Size) can be found in the pocket in the back of the book.

School _____

Room No. _____ Grade _____

Teacher _____

Semester ending _____

FORM CA-10—TEACHER'S CLASS RECORD BOOK

FORM 10—TEACHER'S CLASS RECORD BOOK—FRONT COVER
(ACTUAL SIZE 9" x 12")

INSTRUCTIONS (Form 10)

Enter the attendance directly in the class register or daily record sheet, and then fill in on the proper line in form 10.

Add the numbers in columns 6-a, 6-b, 6-c, 6-d, and 15 every Friday. A complete list of entries is to be kept on the first page of form 10.

Data inserted in spaces under "Pupils Received" and "Pupils Left" will be found invaluable in checking

At the close of the school month, form 10 is to be sent to office at call of principal where data will be copied on form 12 or 12a, and form 10 will be returned to teacher within twenty-four hours.

SYMBOLS

L.—Left. E. T.—Entered by Transfer. R.—Registration.

DEFINITIONS

Column 1. Registration shall designate the first enrollment of a child in the school system during the current school year, and SHALL BE RECORDED AT THE FIRST SESSION THE CHILD IS IN SCHOOL.

A pupil entering from a school outside of the state shall be considered as a new registration. Registration is an increasing number which cannot be diminished.

Column 2. Transfers must not be added to registration.

Column 3. Returns. There are some cases of students who are marked *left* by the school in accordance with the regulations in col. 4. Sometimes these students return later in the year, either because the family has returned, revoking of the employment permit, or other similar cause. Such cases *only* should be entered in col. 3 and must be explained in the memoranda space.

Column 4. All "Lefts" must be permanent "Lefts" (THERE ARE NO TEMPORARY LEFTS).

Opposite *Totals from Last Month,* place number carried forward from last Friday of previous month.

Daily membership at any date is Column 1, plus Column 2, plus Column 3, minus Column 4.

Column 15. Student Hours. See table printed on back cover of form 10.

Since books are kept on the basis of the school year, in this book the procedure at the close of the semester will be as follows: at the close of the first semester all children in membership in this book are marked transferred to other rooms in column 4A and the book is closed. The new book for the second semester is then opened by entering the children received from the old class or from other rooms within the building as received by transfer in column 2A. Entries from other school districts are treated in the manner prescribed for such cases.

FORM 10—TEACHER'S CLASS RECORD BOOK—INSIDE FRONT COVER
(ACTUAL SIZE 9″ x 12″)

ENTRIES BY REGISTRATION AND TRANSFER

BOYS					GIRLS				
No.	Date of Entry	NAME	R. or Et.	Date Left	No.	Date of Entry	NAME	R. or Et.	Date Left
1					1				
2					2				
3					3				
4					4				
5					5				
6					6				
7					7				
8					8				
9					9				
10					10				
11					11				
12					12				
13					13				
14					14				
15					15				
16					16				
17					17				
18					18				
19					19				
20					20				
21					21				
22					22				
23					23				
24					24				
25					25				
26					26				
27					27				
28					28				
29					29				
30					30				
31					31				
32					32				
33					33				
34					34				
35					35				
36					36				
37					37				
38					38				
39					39				
40					40				

FORM 10—TEACHER'S CLASS RECORD BOOK—PAGES 1 AND 12.
(ACTUAL SIZE 9″ x 12″)

A Copy of Form 10, Teacher's Class Record Book, Plate 2, representing pages 2, 4, 6, 8, and 10 (Actual Size) can be found in the pocket in the back of the book.

A Copy of Form 10, Teacher's Class Record Book, Plate 3, representing pages 3, 5, 7, 9, and 11 (Actual Size) can be found in the pocket in the back of the book.

TABLE FOR FIGURING STUDENT HOURS ON STATISTICAL REPORT

No. of Children	Length of Session in Hours												
	.50	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
1	1	1	1	1	2	2	2	2	3	3	3	4	4
2	1	2	2	3	3	4	4	5	5	6	6	7	8
3	2	2	3	4	5	5	6	7	8	8	9	11	12
4	2	3	4	5	6	7	8	9	10	11	12	14	16
5	3	4	5	6	8	9	10	11	13	14	15	18	20
6	3	5	6	8	9	11	12	14	15	17	18	21	24
7	4	5	7	9	11	12	14	16	18	19	21	25	28
8	4	6	8	10	12	14	16	18	20	22	24	28	32
9	5	7	9	11	14	16	18	20	23	25	27	32	36
10	5	8	10	13	15	18	20	23	25	28	30	35	40
11	6	8	11	14	17	19	22	25	28	30	33	39	44
12	6	9	12	15	18	21	24	27	30	33	36	42	48
13	7	10	13	16	20	23	26	29	33	36	39	46	52
14	7	11	14	18	21	25	28	32	35	39	42	49	56
15	8	11	15	19	23	26	30	34	38	41	45	53	60
16	8	12	16	20	24	28	32	36	40	44	48	56	64
17	9	13	17	21	26	30	34	38	43	47	51	60	68
18	9	14	18	23	27	32	36	40	45	50	54	63	72
19	10	14	19	24	29	33	38	43	48	52	57	67	76
20	10	15	20	25	30	35	40	45	50	55	60	70	80
21	11	16	21	26	32	37	42	47	53	58	63	74	84
22	11	17	22	28	33	39	44	50	55	61	66	77	88
23	12	17	23	29	35	40	46	52	58	63	69	81	92
24	12	18	24	30	36	42	48	54	60	66	72	84	96
25	13	19	25	31	38	44	50	56	63	69	75	88	100
26	13	20	26	33	39	46	52	59	65	72	78	91	104
27	14	20	27	34	41	47	54	61	68	74	81	95	108
28	14	21	28	35	42	49	56	63	70	77	84	98	112
29	15	22	29	36	44	51	58	65	73	80	87	102	116
30	15	23	30	38	45	53	60	68	75	83	90	105	120
31	16	23	31	39	47	54	62	70	78	85	93	109	124
32	16	24	32	40	48	56	64	72	80	88	96	112	128
33	17	25	33	41	50	58	66	74	83	91	99	116	132
34	17	26	34	43	51	60	68	77	85	94	102	119	136
35	18	26	35	44	53	61	70	79	88	96	105	123	140
36	18	27	36	45	54	63	72	81	90	99	108	126	144
37	19	28	37	46	56	65	74	83	93	102	111	130	148
38	19	29	38	48	57	67	76	86	95	105	114	133	152
39	20	29	39	49	59	68	78	88	98	107	117	137	156
40	20	30	40	50	60	70	80	90	100	110	120	140	160
41	21	31	41	51	62	72	82	92	103	113	123	144	164
42	21	32	42	53	63	74	84	95	105	116	126	147	168
43	22	32	43	54	65	75	86	97	108	118	129	151	172
44	22	33	44	55	66	77	88	99	110	121	132	154	176
45	23	34	45	56	68	79	90	101	113	124	135	158	180
46	23	35	46	58	69	81	92	104	115	127	138	161	184
47	24	35	47	59	71	82	94	106	118	129	141	165	188
48	24	36	48	60	72	84	96	108	120	132	144	168	192
49	25	37	49	61	74	86	98	110	123	135	147	172	196
50	25	38	50	63	75	88	100	113	125	138	150	175	200
51	26	38	51	64	77	89	102	115	128	140	153	179	204
52	26	39	52	65	78	91	104	117	130	143	156	182	208
53	27	40	53	66	80	93	106	119	133	146	159	186	212
54	27	41	54	68	81	95	108	122	135	149	162	189	216
55	28	41	55	69	83	96	110	124	138	151	165	193	220
56	28	42	56	70	84	98	112	126	140	154	168	196	224
57	29	43	57	71	86	100	114	128	143	157	171	200	228
58	29	44	58	73	87	102	116	131	145	160	174	203	232
59	30	44	59	74	89	103	118	133	148	162	177	207	236
60	30	45	60	75	90	105	120	135	150	165	180	210	240

Form 10) Plate 4

FORM 10—TEACHER'S CLASS RECORD BOOK—INSIDE BACK COVER
(ACTUAL SIZE 9″ x 12″)

A Copy of Form 11—Monthly Housing and Class Report (Actual Size) can be found in the pocket in the back of the book.

A Copy of Form 12—Monthly Attendance Report (Actual Size) can be found in the pocket in the back of the book.

NOTICE OF LEAVING
TO BE SENT TO THE SUPERINTENDENT'S OFFICE ON THE DAY A PUPIL LEAVES

NAME _____ GRADE AND CLASS _____ DATE OF BIRTH _____

OLD ADDRESS _____ NEW ADDRESS _____

REASON FOR LEAVING _____

NAME OF FATHER _____ NAME OF MOTHER _____

DATE _____ SCHOOL _____

CUMULATIVE RECORD, FORM 9, MAILED ON _____
DATE

_____
SIGNATURE

FORM CA-13 — NOTICE OF LEAVING TO SUPERINTENDENT'S OFFICE

FORM 13—NOTICE OF WITHDRAWAL

NOTICE OF TRANSFER

TO BE SENT BY THE SCHOOL THE CHILD IS LEAVING TO THE SCHOOL TO WHICH THE CHILD IS GOING

NAME _____ GRADE AND CLASS _____ DATE OF BIRTH _____

OLD ADDRESS _____ NEW ADDRESS _____

REASON FOR LEAVING _____

NAME OF FATHER _____ NAME OF MOTHER _____

DATE _____ SCHOOL _____

CUMULATIVE RECORD, FORM 9, MAILED ON _____
DATE

_____
SIGNATURE

FORM CA-14 — NOTICE OF TRANSFER

FORM 14—NOTICE OF TRANSFER

NOTICE OF ENTRY

TO BE SENT TO THE SUPERINTENDENT'S OFFICE ON THE DAY A PUPIL IS RECEIVED

NAME _____ GRADE AND CLASS _____ DATE OF BIRTH _____

OLD ADDRESS _____ NEW ADDRESS _____

SCHOOL LAST ATTENDED _____ DISTRICT _____ TOWNSHIP _____ COUNTY _____

NAME OF FATHER _____ NAME OF MOTHER _____

DATE _____ SCHOOL _____

SIGNATURE OF PRINCIPAL _____

FORM CA-15 — NOTICE OF ENTRY

FORM 15—NOTICE OF ENTRY

SCHOOL YEAR TEACHERS' NAME CITY GRADE AND CLASS SCHOOL

FOR THE PURPOSE OF THIS REPORT A CHILD'S SCHOOL AGE IS HIS CHRONOLOGICAL AGE AS OF SEPTEMBER FIRST OF THE CURRENT SCHOOL YEAR. THE OFFICIAL AGE MAY BE FOUND IN THE TABLE ON THE REVERSE SIDE

	UNDER 5	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21 AND OVER	TOTALS
POST GRADUATES																			
TWELFTH																			
ELEVENTH																			
TENTH																			
NINTH																			
EIGHTH																			
SEVENTH																			
SIXTH																			
FIFTH																			
FOURTH																			
THIRD																			
SECOND																			
FIRST																			
KINDERGARTEN																			
OPEN AIR																			
BLIND																			
CRIPPLED																			
DEAF																			
MENTAL DEF																			
INCORRIGIBLES TRUANTS																			
SPECIAL PREVOCATIONAL																			
SPECIAL ADVANCED																			
TOTALS																			

FORM 17—AGE-GRADE SUMMARY (ACTUAL SIZE 11″ x 8½″)

INSTRUCTIONS FOR AGE-GRADE REPORT

1. The age-grade report is to be based on the names of the membership on _____ The report is to include all children
2. Each teacher should tabulate on a separate sheet the official ages of the children, using the accompanying table for finding the official age. (Example: If this report is made out in 1926 and the child's birthday was 7-12-1914, the official age would be 12 years)
3. From this tabulation count the number of children of each age and insert these figures in the proper space of the blank on the reverse of this sheet. (Example If you are teaching a fourth grade and have 4 pupils of 8 years of age, 5 of 9 years, 12 of 10 years, 6 of 11 years, and 1 of 12 years, the figures under the corresponding ages of the row "Fourth Grade" would be 4 - 5 - 12 - 6 - 1. Total at right. This must equal the membership of your grade.)
4. The principal should collect and consolidate all the reports of each school. Total all columns. The total of bottom row must equal the total of the right hand column.

   All children falling within the heavy lines are considered "at age," while those in the stippled area are three or more years retarded.

TABLE FOR FINDING OFFICIAL AGE

The official age of a child is the figure at the intersection in the column of the year in which this report is rendered and the row of dates between which the child's birthdate falls.

If a child's birthdate falls on or between	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
3 — 1 — 1901 and 2 — 28 — 1902	22									
3 — 1 — 1902 " 2 — 28 — 1903	21	22								
3 — 1 — 1903 " 2 — 29 — 1904	20	21	22							
3 — 1 — 1904 " 2 — 28 — 1905	19	20	21	22						
3 — 1 — 1905 " 2 — 28 — 1906	18	19	20	21	22					
3 — 1 — 1906 " 2 — 28 — 1907	17	18	19	20	21	22				
3 — 1 — 1907 " 2 — 29 — 1908	16	17	18	19	20	21	22			
3 — 1 — 1908 " 2 — 28 — 1909	15	16	17	18	19	20	21	22		
3 — 1 — 1909 " 2 — 28 — 1910	14	15	16	17	18	19	20	21	22	
3 — 1 — 1910 " 2 — 28 — 1911	13	14	15	16	17	18	19	20	21	22
3 — 1 — 1911 " 2 — 29 — 1912	12	13	14	15	16	17	18	19	20	21
3 — 1 — 1912 " 2 — 28 — 1913	11	12	13	14	15	16	17	18	19	20
3 — 1 — 1913 " 2 — 28 — 1914	10	11	12	13	14	15	16	17	18	19
3 — 1 — 1914 " 2 — 28 — 1915	9	10	11	12	13	14	15	16	17	18
3 — 1 — 1915 " 2 — 29 — 1916	8	9	10	11	12	13	14	15	16	17
3 — 1 — 1916 " 2 — 28 — 1917	7	8	9	10	11	12	13	14	15	16
3 — 1 — 1917 " 2 — 28 — 1918	6	7	8	9	10	11	12	13	14	15
3 — 1 — 1918 " 2 — 28 — 1919	5	6	7	8	9	10	11	12	13	14
3 — 1 — 1919 " 2 — 29 — 1920	4	5	6	7	8	9	10	11	12	13
3 — 1 — 1920 " 2 — 28 — 1921		4	5	6	7	8	9	10	11	12
3 — 1 — 1921 " 2 — 28 — 1922			4	5	6	7	8	9	10	11
3 — 1 — 1922 " 2 — 28 — 1923				4	5	6	7	8	9	10
3 — 1 — 1923 " 2 — 29 — 1924					4	5	6	7	8	9
3 — 1 — 1924 " 2 — 28 — 1925						4	5	6	7	8
3 — 1 — 1925 " 2 — 28 — 1926							4	5	6	7
3 — 1 — 1926 " 2 — 28 — 1927								4	5	6
3 — 1 — 1927 " 2 — 29 — 1928									4	5
3 — 1 — 1928 " 2 — 28 — 1929										4

FORM 17—AGE-GRADE SUMMARY REVERSE (ACTUAL SIZE 11" x 8½")

FORM 19—PROMOTION AND FAILURE SURVEY (ACTUAL SIZE 8½" x 5½")

COUNTY _____ TOWNSHIP _____ DISTRICT _____ SCHOOL _____

GRADE BEFORE PROMOTION _____ GRADE _____ CLASS _____ TEACHER _____

MEMBERSHIP _____

_____ NO. PROMOTED OR _____ . _____ PER CENT

_____ NO. CONDITIONED OR _____ . _____ PER CENT

NO. FAILED OR _____ . _____ PER CENT

_____ = TOTAL _____ THIS MUST TOTAL 100.0 PER CENT

DIRECTIONS: To be made out in duplicate. Retain one copy at school.

One separate slip must be filled out for each class (A or B) and grade (second, third, etc.).

Figure all percentages to one decimal (14.3).

	ENGLISH	READING	MATHEMATICS	SCIENCE
MEMBERSHIP				
NO. FAILED				
% FAILED				

CHECK KIND OF SESSION: FULL ☐ HALF DAY ☐

SEMESTER ENDING _____ 192___

THIS REPORT HAS BEEN CHECKED AND FOUND TO BE CORRECT.

_____

PRINCIPAL

Form CA-19—Elementary Failure Report.

CODE NO. [ ]

CITY _____ SCHOOL _____ SEMESTER ENDING _____ 192__

COURSE NO. _____ IN _____ [ ] GRADE _____
SUBJECT

NO ENROLLED [ ]

NO. DROPPED CLASS	[ ]	OR ____.____ %
NO. LEFT SCHOOL	[ ]	OR ____.____ %
NO. REMAINING	[ ]	OR ____.____ %

NO ENROLLED _____ EQUALS TOTAL _____ THIS MUST TOTAL 100.0 %

INSTRUCTIONS: One separate slip is to be made out for each class and course by each teacher. Write one figure in each square where blocked out. Figure all percentages to one decimal (91.3%). Do not use common fractions. Percentage columns must equal 100.0%

NAME OF TEACHER: _____

CLASS MEMBERSHIP _____

NO. PASSED	[ ]	OR ____.____ %
NO. CONDITIONED	[ ]	OR [ ].[ ] %
NO. FAILED	[ ]	OR [ ].[ ] %

CLASS MEMBERSHIP _____ EQUALS TOTAL _____ THIS MUST TOTAL 100.0 %

THIS REPORT HAS BEEN CHECKED AND FOUND TO BE CORRECT

_____
PRINCIPAL

FROM 19a—PROMOTION AND FAILURE SURVEY (ACTUAL SIZE 8½" x 5½")

Form CA 19-a—Intermediate and High School Promotion Report

NOTICE OF NON-ATTENDANCE

TO BE SENT BY THE STATE DEPT. OF PUBLIC INSTRUCTION TO SCHOOL OR DISTRICT IN WHICH THE CHILD LIVES, AFTER IT HAS BEEN ASCERTAINED THAT THE CHILD IS NOT IN SCHOOL.

NAME_____ DATE OF BIRTH_____

LAST ADDRESS_____
STREET TOWN

DISTRICT_____

SCHOOL LAST ATTENDED _____

LAST ATTENDANCE REPORTED ON _____

PLEASE INVESTIGATE AND REPORT ON THIS CASE AT ONCE ON FORM 5

_____
TITLE OF OFFICER SIGNING

Form CA-20

FORM 20—NOTICE FROM LOCAL OR STATE DEPARTMENT.

AGE-GRADE REPORT

Grade _____ Sheet No. _____ Teacher _____ School _____

WITH RED INK DRAW A CIRCLE AROUND THE OFFICIAL AGE OF ALL COLORED CHILDREN

BOYS								GIRLS								Consolidation Margin		
(1) FAMILY NAME ONLY	(2) (3) (4) Date of Birth Mo. Day Year	(5) Official Age	(6) Country of Birth of FATHER	(7) Height in Inches	(8) Weight in Lbs.	(9) Ratio (Do not fill this Column)		(1) FAMILY NAME ONLY	(2) (3) (4) Date of Birth Mo. Day Year	(5) Official Age	(6) Country of Birth of FATHER	(7) Height in Inches	(8) Weight in Lbs.	(9) Ratio (Do not fill this Column)		(10a) Age See Number		
1								1								18	B	G
2								2								17½	B	G
3								3								17	B	G
4								4								16½	B	G
5								5								16	B	G
6								6								15½	B	G
7								7								15	B	G
8								8								14½	B	G
9								9								14	B	G
10								10								13½	B	G
11								11								13	B	G
12								12								12½	B	G
13								13								12	B	G
14								14								11½	B	G
15								15								11	B	G
16								16								10½	B	G
17								17								10	B	G
18								18								9½	B	G
19								19								9	B	G
20								20								8½	B	G
21								21								8	B	G
22								22								7½	B	G
23								23								7	B	G
24								24								6½	B	G
25								25								6	B	G
26								26								5½	B	G
27								27								5	B	G
28								28								4½	B	G
																		19744

Form C.S. 21—Age-Grade Class Sheet

FORM 21—AGE-GRADE AND NATIONALITY SUMMARY FOR LARGE CITIES
(ACTUAL SIZE 11″ x 17″)

AGE-GRADE-PROGRESS REPORT

Form CA-22

Name	Country of birth of father	Present Age in HALF YEARS	No. of half years in this school system	Age in half years at time of entrance into this school system	Half-Grade at entrance into this school system	Entered from	Progress in half-grades
1	2	3	4	5	6	7	8
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17							
18							
19.							
20.							
21							
22							
23							
24							
25							

School _____ Teacher _____ Grade _____( )

Room No. _____ Date _____ _____ Principal

FORM 22—AGE-GRADE-PROGRESS (ACTUAL SIZE 8½″ x 11″)

TABLE A

If Date Falls Between	Use Only the Column for the Specific Year in Which the Study is Made						
	Sept. 1, 1924	Sept. 1, 1925	Sept. 1, 1926	Sept. 1, 1927	Sept. 1, 1928	Sept. 1, 1929	Sept. 1, 1930
6-1-1901 and 11-30-1901	46	48	50	52	54	56	58
11-1-1901 and 5-31-1902	45	47	49	51	53	55	57
6-1-1902 and 11-30-1902	44	46	48	50	52	54	56
11-1-1902 and 5-31-1903	43	45	47	49	51	53	55
6-1-1903 and 11-30-1903	42	44	46	48	50	52	54
11-1-1903 and 5-31-1904	41	43	45	47	49	51	53
6-1-1904 and 11-30-1904	40	42	44	46	48	50	52
11-1-1904 and 5-31-1905	39	41	43	45	47	49	51
6-1-1905 and 11-30-1905	38	40	42	44	46	48	50
11-1-1905 and 5-31-1906	37	39	41	43	45	47	49
6-1-1906 and 11-30-1906	36	38	40	42	44	46	48
11-1-1906 and 5-31-1907	35	37	39	41	43	45	47
6-1-1907 and 11-30-1907	34	36	38	40	42	44	46
11-1-1907 and 5-31-1908	33	35	37	39	41	43	45
6-1-1908 and 11-30-1908	32	34	36	38	40	42	44
11-1-1908 and 5-31-1909	31	33	35	37	39	41	43
6-1-1909 and 11-30-1909	30	32	34	36	38	40	42
11-1-1909 and 5-31-1910	29	31	33	35	37	39	41
6-1-1910 and 11-30-1910	28	30	32	34	36	38	40
11-1-1910 and 5-31-1911	27	29	31	33	35	37	39
6-1-1911 and 11-30-1911	26	28	30	32	34	36	38
11-1-1911 and 5-31-1912	25	27	29	31	33	35	37
6-1-1912 and 11-30-1912	24	26	28	30	32	34	36
11-1-1912 and 5-31-1913	23	25	27	29	31	33	35
6-1-1913 and 11-30-1913	22	24	26	28	30	32	34
11-1-1913 and 5-31-1914	21	23	25	27	29	31	33
6-1-1914 and 11-30-1914	20	22	24	26	28	30	32
11-1-1914 and 5-31-1915	19	21	23	25	27	29	31
6-1-1915 and 11-30-1915	18	20	22	24	26	28	30
11-1-1915 and 5-31-1916	17	19	21	23	25	27	29
6-1-1916 and 11-30-1916	16	18	20	22	24	26	28
11-1-1916 and 5-31-1917	15	17	19	21	23	25	27
6-1-1917 and 11-30-1917	14	16	18	20	22	24	26
11-1-1917 and 5-31-1918	13	15	17	19	21	23	25

FORM 22—AGE-GRADE PROGRESS TABLES (ACTUAL SIZE 8" x 5")

If Date Falls Between	Use Only the Column for the Specific Year in Which the Study is Made						
	Sept. 1, 1924	Sept. 1, 1925	Sept. 1, 1926	Sept 1, 1927	Sept. 1, 1928	Sept. 1, 1929	Sept. 1, 1930
6–1–1918 and 11–30–1918	12	14	16	18	20	22	24
11–1–1918 and 5–31–1919	11	13	15	17	19	21	23
6–1–1919 and 11–30–1919	10	12	14	16	18	20	22
11–1–1919 and 5–31–1920	9	11	13	15	17	19	21
6–1–1920 and 11–30–1920	8	10	12	14	16	18	20
11–1–1920 and 5–31–1921	7	9	11	13	15	17	19
6–1–1921 and 11–30–1921	6	8	10	12	14	16	18
11–1–1921 and 5–31–1922	5	7	9	11	13	15	17
6–1–1922 and 11–30–1922	4	6	8	10	12	14	16
11–1–1922 and 5–31–1923	3	5	7	9	11	13	15
6–1–1923 and 11–30–1923	2	4	6	8	10	12	14
11–1–1923 and 5–31–1924	1	3	5	7	9	11	13
6–1–1924 and 11–30–1924	0	2	4	6	8	10	12
11–1–1924 and 5–31–1925		1	3	5	7	9	11
6–1–1925 and 11–30–1925		0	2	4	6	8	10
11–1–1925 and 5–31–1926			1	3	5	7	9
6–1–1926 and 11–30–1926			0	2	4	6	8
11–1–1926 and 5–31–1927				1	3	5	7
6–1–1927 and 11–30–1927				0	2	4	6
11–1–1927 and 5–31–1928					1	3	5
6–1–1928 and 11–30–1928					0	2	4
11–1–1928 and 5–31–1929						1	3
6–1–1929 and 11–30–1929						0	2
11–1–1929 and 5–31–1930							1
6–1–1930 and 11–30–1930							0

FORM 22—AGE-GRADE-PROGRESS TABLES (ACTUAL SIZE 8" x 5")

TABLE B

First half year kindergarten..... 1
Second half year kindergarten..... 2
B-1..... 3
A-1..... 4
B-2..... 5
A-2..... 6
B-3..... 7
A-3..... 8
B-4..... 9
A-4..... 10
B-5..... 11
A-5..... 12
B-6..... 13
A-6..... 14
B-7..... 15
A-7..... 16
B-8..... 17
A-8..... 18
B-9..... 19
A-9..... 20
B-10..... 21
A-10..... 22
B-11..... 23
A-11..... 24
B-12..... 25
A-12..... 26

Last Name	First Name	School	Week Ending	Total Student Hours

Attendance x Length of Class Period in Hours=Student Hours

Period	Course & No.	Room No.	Grade	Membership	DAILY ATTENDANCE						Total Attendance	Student Hours Use no Fractions
					Mon.	Tues.	Wed.	Thur.	Fri.	Sat.		
I												
II												
III												
IV												
V												
VI												
VII												
VIII												
IX												
X												
Totals												

Form CA-23 — Student Hour Report

FORM 23—TEACHER'S STUDENT HOUR REPORT

FORM 24—TEACHER'S STATE RECORD CARD (ACTUAL SIZE 8" x 5")

LAST NAME | FIRST NAME | INITIAL

DATE OF BIRTH | PLACE OF BIRTH

CERTIFICATION

CERTIFICATION	DATE ISSUED
LIFE	
(A) GRANTED BY STATE BOARD ON STATE EXAMINATION	
" ON COLLEGE CERTIFICATE	
" ENDORSED FROM OTHER STATES	
" STATE NORMAL CERTIF FROM OTHER STATES	
(B) STATE NORMAL CERTIFICATE	
(C) UNIVERSITY CERTIFICATE	
(D) SPECIAL GRANTED BY SUPT OF PUBL. INSTR.	
LIMITED	
(A) GRANTED BY STATE BOARD ON 4-YEAR COLLEGE COURSE	
" " ENDORSED BY OTHER STATES	
(B) STATE NORMAL CERTIFICATE	
(C) COUNTY NORMAL CERTIFICATE	
(D) ENDORSED FIRST GRADE	
(E) COUNTY FIRST	
" SECOND	
" THIRD	
" SPECIAL OR EMERGENCY	
(F) CITY	

FORM 24—TEACHER'S RECORD CARD

EXPERIENCE

DISTRICT	TYPE OF SCHOOL					TOTAL YEARS OF SERVICE
	KDGN.	ELEM.	SPECIAL	INTERM.	HIGH	

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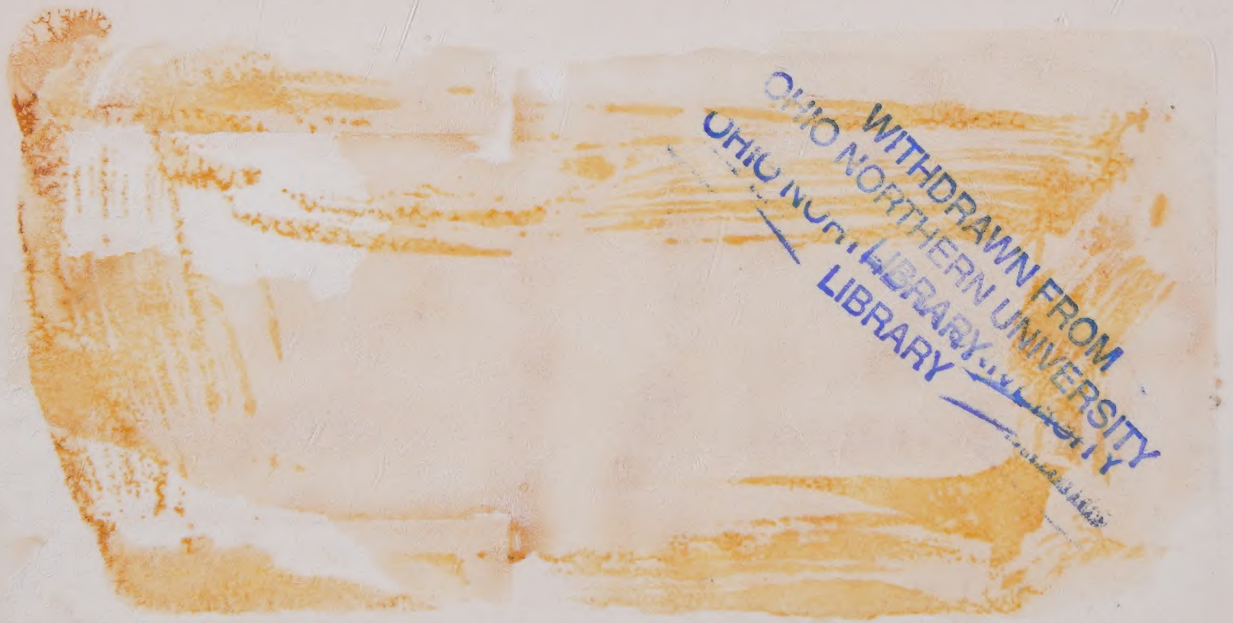

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